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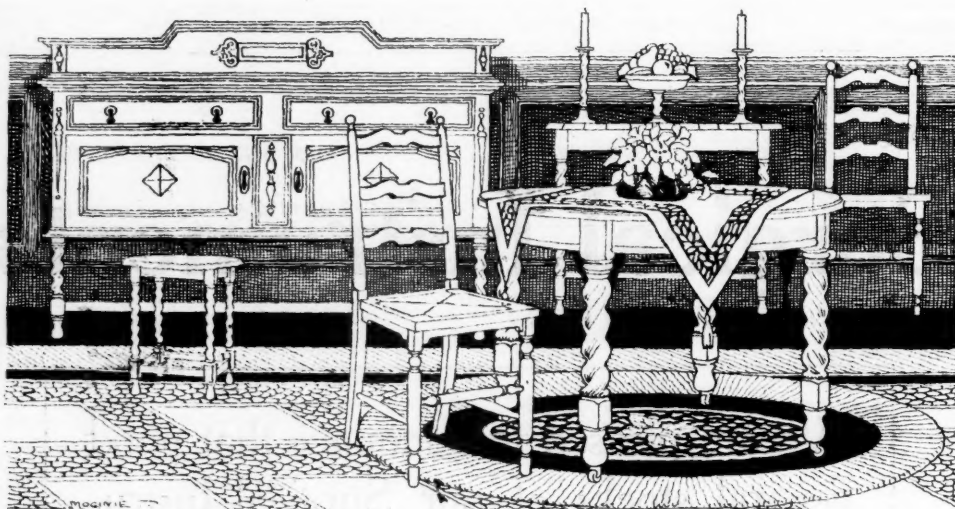
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THE PSYCHIC ASPECT OF STAMMERING: ITS BASIS, WITH CORRECTIVE MEASURES.¹

By T. GARNET LEARY, M.D. (EDIN.), F.R.C.P.,
Psycho-Therapist to Repatriation Department, Victoria.

It seems scarcely necessary to point out that stammering may and does constitute a great handicap in life to anyone who may suffer from such a disability. Yet it requires to be emphasized. Stammering is one of the tragedies of life that tends indirectly to warp the forces of the brain and, if not to wreck, at least to modify profoundly the psychid organism. The uncertainty and disappointment attaching to the condition can be personally better felt than expressed when looking back over half a lifetime spent in trying to find some relief from this speech defect and in endeavouring to counteract the tendency to morbidity of outlook which it is apt to engender. When a child is beset by this condition, the desirability of mapping out its future is driven forcibly home to both parents and teachers. Natural abilities of no mean order have frequently to be made subservient to those of much inferior quality and natural tastes misdirected to some other career than that of the ordinary professional or

commercial training. It is, therefore, particularly important that some effort at cure be made before the commencement of school life, if only for the reason that a certain amount of teasing or mimicry by child companions must accentuate the misery of the child and the child's whole morale, apart from the moulding of the mental processes, must be undermined. It is requisite also that much care be considered in the light of the temperament and constitution of the affected individual.

What is Stammering?

Stammering must be regarded as something quite other than a defect of speech as a whole. Speech is in reality an internal process of thought. It may be without articulation at all, as, for example, by gesture or by symbol, as in the case of the deaf and dumb. It is only when speech becomes external that words are commonly used for its expression. This distinction is specially important for all teachers to bear in mind; for a stammering child may be wrongly regarded as a dullard, of impaired mentality or deficient intellect. Stammering or stuttering is then a want of coordination between the respiratory muscles and the muscles concerned in articulation. In my opinion, this has a psychic basis without or with psychological trauma. Some adults who stammer, have in order to adapt themselves adequately to their environment (for example,

¹ Read at a meeting of the Section of Neurology and Psychiatry of the Victorian Branch of the British Medical Association on September 18, 1922.

speaking at some social function or other) and to get rid of their self-consciousness—the fear and dread of it—or to conceal their stammering, to drug themselves with alcohol to produce relaxation. There is then no effort and no straining and their confidence can be established. Articulation, which is under psychic control, can be inhibited to a degree, thus producing slurring speech or an even, smooth drawl.

The following may be interesting points for discussion at the forthcoming medical conference:

(A) It has been estimated that 98% of the stammerers treated have been males.

(B) Stammering is most prevalent amongst Anglo-Saxons, those speaking foreign language (especially Chinese) rarely, if ever, being known to stammer.

(C) It has been noted that 30% of all stammerers are left-handed and mirror writing has been observed.

(D) Some anatomists deny the existence of a speech centre in Broca's area.

If one reflects on the complexity of the innervation of the muscles of the lips, tongue, larynx and vocal cords, the marvel is not that a few individuals stammer, but that so many are able to function properly. The point to keep clear in the mind is that there is no necessary organic defect in the muscles or in the nerve, but a disturbance of their function. Some of the muscles pass into a condition of temporary "spasm" and this may even be the case with the diaphragm, whose musculature is almost entirely concerned with breathing. It may be demonstrated by observing a stammerer with the aid of X-rays. Stammering or stuttering is, therefore, an example of what is called a pure "neurosis" or disturbance of function.

Disorders of speech in all its phases were amongst the commonest hysterical affections due to the strain of war. Sometimes the patient became completely mute or simulated epilepsy, although he wrote voluble accounts of his condition and understood perfectly what was said to him. This is an example of that peculiar disintegration of some highly developed function so characteristic of hysteria. It is not the physiological mechanics of language that are affected, but the patient is imbued firmly with the idea that he will stammer and cannot speak. This is no reason, however, from the conceptual point of view, why he should not be able to comprehend what is said to him, to read or to write—a condition impossible from organic disease. Although his voice might be reduced to a whisper, he could cough loudly; for from a psychological point of view the resonant sound of a cough has nothing to do with articulated speech. Moreover, on examining the larynx, the cords are seen to remain widely apart on phonation, although with a cough they close normally.

The so-called "hysterical stammer," more accurately termed a stutter, exemplifies another aspect of this disorder. Unnecessary syllables are interjected into the stream of speech; the patient is not held up like a true stammerer in difficulty in repro-

ducing some word beginning with a consonant or labial, but his speech is interrupted by a series of perfectly inarticulated sounds.

Why Should the Speech Function be Disturbed?

Commonly it is considered an evidence of what is called "nervousness." This is, in my judgement, an erroneous conception. The "nervousness" which is undoubtedly associated with stammering, should be looked upon rather as one of the effect and not the cause. The more self-consciousness develops, the greater is the manifestation of nervousness in the sufferer. In other words, a child does not usually stammer because he is nervous, but is nervous because he stammers. At uncongenial times and places his mind is on his speech misfortune and he tries to conceal it. He becomes disoriented.¹

Too often the fears of the child are met with harshness and ridicule or misdirected zeal instead of with kindness, sympathy and explanation. A few words may be said here as to the common manifestation of the trouble. The difficulty is usually shown in the initial explosive consonants during articulation. Certain letters (no two sufferers fail in the same consonant) present more difficulty than others. For example, words beginning with "p" have too many "p's"; similarly, "b," "t," "d" and "c," "k" and "g." There is a frequent repetition of this initial letter. The word is then suddenly ejaculated and the succeeding words are uttered very rapidly until their flow is checked by a fresh obstacle. There may be associated grimaces caused by the effort to speak. The sound is no sooner made, than it is dwelt on or returned to and repeated by a loose, spasmodic closing and opening of the lips thus: "P-P-P-Peter—Pip-Pip-Piper." The stammer is not in reproducing the sound. Vocalization is quite distinct from articulation. The intense consciousness of the stutter leads to another in the defect, namely, a tendency to check and hold the speech organs, a reflex spasm. "P," which ought to move and explode at the lips, refuses; "T" (tip of tongue to upper teeth), "K" and "G" cause a choking gurgle.

At the same time, however, the definition of stammering as a pure neurosis does not dispose of our difficulty. In the search for some working hypothesis it is requisite to form some notion of what causes the neurosis. You are all doubtless more or less familiar with the modern psychological teaching of Freud and Jung and their followers in which the various "neuroses" recognized by clinical observers are explained in the theory of repressed emotion. A flood of light has been thrown upon the subject by the fact that a considerable number of soldiers who had been exposed to terrifying experiences of bursting shells, or who had been torpedoed, or been buried by explosions, developed stammering as a result. In some of them it was a revival or a re-manifestation of a defect that they had overcome. In others it was an entirely new development. There can be little doubt that in these and in most other examples of what is now termed

¹ Shakespeare: "As You Like It," Act III., Scene 2.—Rosalind: "I would thou could'st stammer, that thou might'st pour out this concealed man out of thy mouth," *et cetera*. . . . "I prithee take the cork out of thy mouth."

shell-shock, the repressed emotions of fear produced a dissociation of mental functions which, in certain cases, resulted in stammering. Many of these cases have been successfully dealt with by the modern method of "psycho-analysis" and suggestion, either with or without hypnotism, but these measures are not sufficient, unless reinforced by a re-education of the rhythmic interaction of breathing and articulation. From this experience it seems clear that it is usually associated with some repressed emotion of "fear." Such may possibly be the case in childhood. Children who stammer, are usually of hypersensitive type. Stammering originates in many ways, but commonly (with history) after acute fever, whooping cough, fright or general debility. Mimicry is also a potent factor. Uncongenial surroundings certainly exaggerate the condition. The importance of careful and considered treatment in every case is especially to be insisted on, because the "psychic" element in neglected instances may pass on to one of mental morbidity or misanthropy or the individual may become a "misfit" by growing up with all the stigmata of the neurotic in his mental make-up.

How Stammering May Be Overcome.

The rational treatment of stammering may now be understood upon the basis of the underlying causative factors which have been briefly outlined. The careful preliminary general medical examination and adoption of suitable hygienic or congenial surroundings may be taken for granted. The special measures fall under two heads: the first directed to the psychic complex and the second to the endeavour to re-establish a harmonious interaction of the muscles of articulation and respiration. The whole success of treatment depends upon creating in the patient's mind the feeling of confidence and self-reliance and, when possible, especially explaining the methods with auto-suggestion. The endeavour must be in this direction to overcome all sensitiveness and to bring about a smoothness of mental balance. The family circle and friends should comprehend that their help is needed, when they are fully conversant with the technique. Personality is an invaluable factor in helping to allay natural emotion of fear with explanation and persuasion. Any repressed complex or disorientation likely to instil or perpetuate nervousness should be patiently sought. It may be necessary in some cases to begin with isolation from friends and relatives and new influences brought to bear and the sufferer allowed to test progress with strangers. Irritability and misplaced sympathy will militate against a successful issue. A sympathetic knowledge of child nature will, on the other hand, be an environment of the most powerful assistance, especially to inculcate the idea that there should be no attempt to conceal their misfortune.

Medical attention has lately been drawn to the problem of child fear, a matter first popularly emphasized by George Elliot. We are apt to forget that a child's sense of justice is very keen and their sense of presumed right and wrong very lively in accordance with what principles they have been taught. A child easily becomes sullen, morbid, sus-

picious and introspective if wrongly punished. Harshness and ridicule are often misplaced in the treatment of children and are never appropriate in dealing with the stammerer. "Inferiority" complex plays a predominating part in which the patients feel they are inferior and act accordingly. They cannot assert themselves and desire to live in their own orbit; they choose their own paths, those of least resistance. Such a complex constitutes an almost complete bar to moral and intellectual progress.

In war cases, to employ with gratifying results the method which has been termed "abreaction" for eliminating the repressed "fear" complex, the sufferer is hypnotized and while in that condition is induced to recall and live over again his terrifying experiences, which, though buried in the sub-conscious mind, are still a disturbing "psychosis."

Fear is the most potent reason for repression. All children and animals experience fear; this is suppressed in the adult, who, under normal conditions of civilized life, experiences anxiety only. But deep down lies fear, ready to spring into being when inhibition is removed—as, for example, during sleep. Now in civil life fear of disease is extremely frequent. Some are so subject to this form that they dread each disease in turn, as it becomes the fashionable centre of discussion in the daily press. Such fears, dismissed from consciousness without reasonable consideration, are liable to work havoc in the underworld of our minds.

Some relationships are by their very nature liable to be highly charged with emotion. "No man," said Bacon, "can speak to his child as a father"; parental fear is the basis of many anxieties.

At the last Session of the Australasian Medical Congress at Brisbane in 1920, I exhibited personal histories, unedited, written by shell-shocked patients, to show what terrible experiences they have come through and how fear in their cases induced stammering.

The hypnotic procedure would not be applicable in many of the juvenile stammerers, but a patient effort must be made here, as elsewhere, to eliminate the "fear neurosis." The procedure for harmonious muscular rhythm and coordination between the speech and respiratory muscles is made up of several distinct exercises. In some cases respiratory exercises are important; in all cases for the production of rhythmic coordination the position of the body must be one of complete relaxation. The psychic factor of "herding" has proved to be invaluable.

1. Respiratory exercises which include the lungs and diaphragm (*id est*, deep breathing). The proper position is explained, the whole body being held in a relaxed position, well balanced, with the shoulders thrown well back. The throat and articulatory muscles must be always free from reflex spasms and should never participate in efforts. When the sterno-mastoid muscles are tense with a modified trismus or an expression of physionomical strain, the teeth sometimes are noticed to be tightly closed. Before speech is started this condition must be altered by a course of respiratory drill. Piano notes

for vowel sounds, with intonation, have proved useful in obstinate cases.

2. When the mouth and lip movements are properly understood, chest expanding exercises can be started. These are directed towards the maintenance of respiratory control by the production of an even rhythm between inspiration and expiration and to the increasing of chest capacity. In contradistinction to Sandow's development of muscle, dumbbells are not necessary. The arms are to be slowly raised horizontally, with the palm of the hand downwards, and various swinging movements executed in combination or rhythm with deep breathing—inspiration through the nose and expiration through the mouth. Each difficult consonant must be studied and the patient taught to become familiar with the proper position of the tongue and lips and so on, so that efforts can be directed when in difficulty to vocalization rather than to articulation. This spasmodic hesitation causes an indirect nervous storm, as exhibited by the face muscles in various contortions, to break through the various halts. Sometimes the mouth remains widely open and a guttural, thick sound emanates from the throat ("k" and "g"), simulating a fit; or in dentals ("t" and "d") a spraying of saliva or spluttering results.

When mastery is felt, starting with sounds (for example, as in sighing or yawning), each vowel can be articulated in a low tone and practised *seriatim* until the vowel sounds can be gradually increased in a prolonged, natural tone, so that a musical note is practically simulated. Beating time with the hand or foot at first, as in a pendulum movement, or by metronome or by demonstrating the violin bowing, helps to get the rhythm or swing. Piano notes or tuning fork sounds and lalling the vowels assist materially to this end (automatic relaxation). Sometimes a drilling in the rising and falling inflection of each vowel sound, by commencing the sound with an effusive utterance, rising to the full pitch of the voice, and then by beginning with explosive force and gradually sinking to a low tone again, is useful, the idea being to cultivate the economic expenditure of breath during articulation. Singers and elocutionists who are stammerers, do not stammer whilst singing or reciting; they rhythmically open the mouth, thus making the articulatory sounds prolonged, vowel sounds only being required for musical cadence. A stammerer likewise does not tend to stammer if the voice is not raised about a whisper, as the voice is not involved. The reason is that the muscles concerned in articulation are employed, but not those of phonation. This is observed in hysterical aphonia. Aphonia is simply a physical manifestation of the defect of stammering. Similarly it has been noted in some types of respiratory defect that vocalization is attempted at the end of expiration or the beginning of inspiration. There being little or no air with which to vibrate the vocal cords for the production of voice, the stammerer's attempt to speak results in a temporary aphonia and his failure to effect speech reacts detrimentally upon his psychic centre and the stammering interval.

No one can find difficulty if they pronounce articulate vowel sounds, because no effort is made to use the parts of speech which make the voice. This can

be suitably contrasted with the loss of normal, perfect coordination between the action of the expiratory muscles and the laryngeal and articulatory muscles, the laryngeal muscles being most at fault, so that the patient is straining his articulatory mechanism instead of vocalizing.

The letters of the alphabet are taken as far as possible after the method of the vowels, with special reference and noting the consonants which cause the stutter. These troublesome letters are taken separately and practised with the vowels alone or with short sentences as in a nursery rhyme, for example, "Jack and Jill went up the hill" or "Little Bo Peep," swinging in rhythm.

The words, including all parts of speech, are all given equal value by prolonging the terminal part into the beginning of the next word, thereby simulating at first a monotonous drawl or lalling, sing-song utterance. The unnatural speech gives perfect control and can always be used to exert and create self-confidence and self-reliance. This method is useful to mete an emergency, as in excitement, passion or even determined attempts at phonation, with failure at repeated articulation. It is most efficacious and should be associated with relaxation.

These nursery rhymes can be readily replaced by smooth verse which produces an agreeable rhythmic cadence. Conversation and house telephone can be met in this same slow, deliberate manner. When perfected, this rhythm is scarcely detected and is gradually looked upon as an idiosyncrasy. Whenever difficulty is presented at the beginning of a word or whenever the selected consonant throws the sentence out of gear, it is always expedient to omit the difficult consonants and to emphasize in length the succeeding vowel or the vocal element of the consonant.

If improvement is not decisive or well marked after a few days' patient endeavour, the only solution is that inefficiency is due to want of application and concentration. This applies mainly to children who are not old enough to understand what their speech disability means. Under personal supervision with auto-suggestion and relaxation two weeks, taken as a rule, usually suffice to correct faulty technique and to bring about psychic control with perfect vocalization. This brings about a desire to practise, which is based entirely on ambition, with a feeling of growing self-confidence and independence. The whole process of the remedial treatment depends upon developing in the patient a feeling of self-reliance. The nervous fears must be driven from his mind by every method in our power. He is acutely conscious of his disability and is apt to develop a morbid, self-depreciatory attitude in regard to it.

Conclusion.

The psychasthenic stigmata (which co-exist in most stammerers who will always remain psychasthenic during their lifetime) show that it is part of their "make up," though their symptoms may be in abeyance or inhibited to a degree. It is the culmination or beginning of an ingrained neuropathic herediety—"born, not made"; a psychic problem for further study.

NERVOUS MECHANISM OF FUNCTIONAL DISORDERS OF DIGESTION, WITH SPECIAL REFERENCE TO HYPERTONIC AND HYPOTONIC DYSPESIA AND NERVOUS COLITIS.¹

By C. BICKERTON BLACKBURN, O.B.E., M.D.,
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By functional disorder I mean one that does not depend upon any organic change in the organ of which the function is disturbed.

Our first duty, when confronted with a digestive disturbance, is, of course, to make quite certain that there is no organic disease present. But having done so, we must not be satisfied with a diagnosis of a functional disturbance, attaching a label such as dyspepsia, constipation, colitis *et cetera*. So far we have but determined that a certain symptom complex is present and our quest must be the cause. I believe the chief reason why so many regard these conditions as unsatisfactory to treat is to be found in a tendency to regard them as diseases rather than as indications of nervous disturbance.

Before going further I am going to ask you to review briefly the nervous connexions of the digestive tract.

The Nervous Control of the Sympathetic System.

The immediate care of the digestive functions is relegated to the sympathetic system and in perfect digestive health the head is unconscious of what goes on in the belly.

If anything goes wrong, however, we find out quickly that the sympathetic is really by no means independent, but has manifold connecting links with the central nervous system, especially through the vagus and the *rami communicantes*. More indirectly, through the thoracic and cervical sympathetic, relations are established with the hypoglossal, glosso-pharyngeal and other nerves.

There seems ample reason for the belief that there are located in the spinal cord reflex centres, to and from which afferent and efferent impulses are constantly passing. We do not know the exact nature of the afferent impulses, but we know that they are not of the sensory type with which we are familiar in the skin and muscles, as the viscera are devoid of sensory nerve endings. Many of the efferent impulses must, of course, be motor and secretory and according to their intensity they will lead to varying degrees of activity in peristalsis and to the secretion of digestive and other secretions, including the intestinal mucus.

We must remember that these impulses, making their way to and from the centres, do not travel along insulated wires, as it were, but over what may be thought of as a constantly used right of way through a maze of nerve fibrillæ which, though brushed here and used as stepping stones there, quietly pursue their ordinary activities. But this only holds when the impulses are normal. Directly they are intensified, it is far otherwise. A gentle touch or light tread is easily overlooked, but it is

another matter when it comes to pushing and tramping; so we find that in digestive disorders disturbances are often encountered in skin and muscles quite distant from the organ that is deranged. Naturally, cells and fibres in greatest proximity to the reflex centres are specially affected and accordingly the disturbances are reflected fairly constantly along certain paths. Time will not permit of a minute description of these paths, so admirably worked out by Henry Head, but in stomach derangements pain is very liable to be felt below the shoulder blades, especially the left, and in the second left interspace in front, while, when the bowel is at fault, the lumbar region is frequently the site of discomfort. When the patient presents other evidences of the digestive disorder, these pains are usually assigned their proper place in the symptom complex, but often enough the reflected pain is the only obvious evidence of ill-health and then a diagnosis very wide of the mark is sometimes made.

It is not easy to determine whether under normal conditions impulses pass regularly to the brain from the viscera, but the readiness with which slight departures from the normal are appreciated by the consciousness, suggest that some kind of messages may be regularly reaching the subconscious mind. In the nightmare following a late heavy meal there is often no other evidence of disturbance of the digestive functions.

In regard to many of the cerebral symptoms, it is not easy to estimate the part played by bio-chemical processes. Thus the drowsiness, depression and nocturnal insomnia so frequently complained of by patients with hypersecretion are often coincident with the secretion of a very alkaline urine.

However, for our present purpose the exact mechanism matters little. The point on which you will, I think, all agree with me, is that abnormal afferent impulses reaching a normal brain and cord do produce wide-spread effects on the central nervous system.

Psychical Influences.

But what we are prone to overlook is the effect of abnormal states of the central nervous system upon what would otherwise be normal impulses proceeding to the viscera, yet it seems natural to expect that when the central nervous system is in a condition of hyper-excitability, abnormally powerful efferent impulses might often result from normal afferent ones and that the normal afferent impulses might produce abnormal effects upon the hyper-excitable maze of nervous tissue through which they pass. And there is overwhelming evidence that this is frequently the case. If you will make a practice of testing the knee and elbow jerks of patients in whom you have made a confident diagnosis of nervous dyspepsia, you will very frequently find that they are much more active than is normal.

Every one of you must have met with patients whose indigestion is aggravated or only present during time of mental stress or anxiety. I recall a barrister who once consulted me because he always got dyspepsia when briefed for an important case, as he put it: "While the case is on, nothing agrees with me and when it is over, nothing upsets me."

¹ Being a lecture delivered at the Post-Graduate Course in Medicine in Sydney on January 15, 1923.

During the war, when I was in Egypt, I saw a number of nerve-racked patients whose chief complaint was digestive. Nervous vomiting, hypertonic dyspepsia and nervous diarrhoea were common forms; the majority of these patients responded readily to treatment directed to soothing the nervous system. Dr. Sear will tell you something of the X-ray findings in nervous dyspepsia, but I may mention here some of my own X-ray observations on these military patients, as I saw a number of them with the screen after opaque meals. Hyper-tonicity and hyper-peristalsis were the chief abnormalities noted and it was remarkable how forcible and rapid the peristaltic waves were in many cases and how quickly many of the stomachs emptied. One patient in particular made a great impression upon me. He was vomiting everything he took and we were afraid the meal would be a failure on this account. However, he managed to get it down and, mainly as a result of bullying him, he managed to retain it. For the first few minutes he retched and we saw the opaque mass hurled again and again against the diaphragm; I was conscious of an imminent danger of a bismuth bath. Then suddenly the reverse movements ceased, most powerful peristaltic waves started from the cardiac end, following each other in rapid succession, and within the hour the whole meal had passed into the intestine. Within a fortnight under sedative treatment this patient was enjoying three hearty meals a day.

The psychical influence over digestion has also to be reckoned with. A familiar instance may be quoted in the readiness with which nervous people will vomit on seeing an accident. Many cases of functional digestive disturbance are psycho-neuroses and treatment is needed on those lines.

The Splanchnic System.

We may next pass to the consideration of the relations between the different parts of the splanchnic nervous system.

Very frequently definite organic disease of one part of the digestive apparatus is associated with functional disorder of another part, a fact which, of course, serves to remind us that we must always think of the alimentary tract as a whole, however convenient it may be for descriptive purposes to classify as complete disease disorders of limited sections of it. Perhaps the most common instance is the disturbance of the bowels met with in practically all organic diseases of the stomach. Many other examples will occur to you, such as the dyspepsia which, apart from colic or acute inflammatory symptoms, is the chief evidence of disease of the gall bladder and which often precedes the localizing symptoms. Chronic disease of the appendix too may for long have as its only symptom a recurring dyspepsia or colitis. Often the removal of the diseased appendix should be the first step in the care of one or other of these disorders. I must digress here for a moment to make it very clear to you that I am not advocating the theory that all colitis or all dyspepsia is due to disease of the appendix and to be cured by appendicectomy. So far from this being my view, I may state that I am fully convinced that the sequence of events is very

often quite the reverse and the appendix often becomes diseased as a part of the general intestinal catarrh, of the colitis or as a result of the stasis accompanying the dyspepsia. I would urge you to bear this aspect of the question in mind and, when you feel justified in advocating appendicectomy in either of these types of cases, to follow my example and be extremely cautious in pointing out that the diseased appendix is a hindrance to adequate treatment, but that its removal is to be regarded as a preliminary to treatment and not as the treatment itself.

The term reflex usually applied to all these functional disturbances of one part where there is organic disease in another, is not a good one, as the word is usually used in quite another sense—reflected might be better.

How far pathological changes in the sympathetic ganglia themselves are concerned in disturbances of function is difficult to say, but there is some reason to think that the condition described as gastralgia, in which the patient is subject to severe attacks of pain referred to the region of the stomach, sometimes accompanied by vomiting and usually quite independent of the taking of food, is due to ganglionic disturbance. It has been suggested that similar pains in lead poisoning and even the gastric crises of tabes may arise from this source.

To recapitulate, then, it would seem that functional disorders of the digestive apparatus may arise from abnormal states of the nerves of the affected part, from a disturbance reflected from a part organically diseased, from the ganglia and from abnormal states of the central nervous system.

Inflammation as a Cause of Functional Disturbance.

Something must be said about the nature of the disorder of the nerves of the affected part. A functional dyspepsia or nervous colitis is so often regarded by the patient to have followed directly upon a definite inflammatory attack, such as a toxic gastritis or entero-colitis, that it seems possible that a nervous instability of this part of the nervous system may be set up in this way.

Septic conditions of the mouth, nose or throat are very often associated with dyspeptic conditions and though it may be questioned whether in such patients there is not really a mild degree of gastritis—an organic lesion—keeping up the irritability of the nerves yet the evidence of inflammation is so slight that the cases are usually included in the functional group. A species of anaphylactic reaction to certain articles of food seems to keep up some cases, but it is well to be cautious in accepting the opinions of patients in regard to the influence of various foods in relation to their symptoms, as here suggestion plays so large a part and those with nervous colitis are especially liable to eliminate one article after another till eventually they tend to suffer more from inanition and vitamin deficiency than from the original disease.

I am purposely leaving out of consideration the dyspeptic symptoms which figure so prominently in many cardio-vascular diseases and in various infective conditions as it is so difficult to say how far

in such cases defective blood supply and toxæmia are respectively responsible. My chief object in mentioning them at all is to remind you of the importance of a general examination in all cases and in particular of eliminating pulmonary tuberculosis before deciding that a patient has a purely functional dyspepsia.

Symptoms.

Turning our attention next to the symptoms presented by our patients and taking first those whose stomachs are the chief offenders, we find that the number and variety of the complaints are prodigious. Pain before, during, soon after, long after and having no apparent relation to food, but in some form and at some time is probably the most common. It may be a mere fullness or discomfort, a sensation of burning or aching or gnawing and occasionally is extremely severe. Its position may be in the left hypochondrium, the epigastrium or generally over the region overlying the position where the stomach is supposed to lie, but it is rarely localized to a small area or accompanied by definite hyperæsthesia, as is the case so often where there is a well-defined organic lesion. There may be in addition or there may be only the referred type of pain already mentioned as resulting from disturbance of the cord.

Flatulence or a sense of having some gas that it is desirable to part with, is equally, if not more, common. It is usually ascribed by the patient and sometimes, I fear, by his medical adviser, to fermentation. Fermentation as a cause of gas in the stomach is, of course, extremely rare and practically only occurs where there is gross pyloric obstruction. My own observations with X-rays have led me to the view that the degree of discomfort resulting from the air swallowed with the food or in the efforts to obtain ease is largely dependent upon the amount of tension exerted upon it by the stomach walls. I have seen extreme discomfort with a really small amount of gas in a man with a very hypertonic stomach and none at all in another who had a large amount of gas in an atonic one. It may be, however, that it is not gas at all, but a misinterpreted sensation resulting from an irritable spasm of the cardiac orifice which the patient tries to relieve by belching, only succeeding in pumping air in till the stomach will hold no more and finally expels it, thus keeping up the deception. The habit of alternately inflating and deflating the stomach is quickly acquired, but extremely difficult to cure.

A less common variation of this type of symptom is met with in those who are prone to get attacks of spasmodic contraction of the diaphragm which force the abdominal contents into a smaller space and produce a sense of severe distension. This form of discomfort, however, passes off without any eructation of gas.

Drowsiness soon after the ingestion of food is a common complaint and is, I think, a fairly certain sign of hypersecretion of a highly acid gastric juice. It is of special interest because it is often accompanied and at times is replaced by a sense of profound depression and extreme exhaustion, loss of

energy and aching in the limbs which is too often attributed to heart disease. This is all the more likely when, as is often the case, it is associated with palpitation or the appearance of extra-systoles.

Time will not permit of my discussing the various other symptoms, such as nausea, vomiting, anorexia, insomnia *et cetera*.

Diagnostic Points.

I will now turn your attention to the traditional classification of the functional disorders of the stomach as clinical entities, such as hyperchlorhydria, *achylia gastrica*, hypotonic and hypertonic dyspepsia, *vomitus nervosus* and a host of other names, I remember vainly trying to commit to memory in my student days, wondering the while why so many different diseases should beset a single organ. Thanks to X-rays and examinations with the fractional test meal we know now that one functional dyspeptic may vary his symptoms as readily as a chameleon his colours and, further, that practically all or any of the common types of symptoms met with in dyspepsia may be found with all the known types of stomach.

X-ray observers have discovered that we apparently do not all begin life with the traditionally "normal" stomach, but that people in seemingly normal health may display on the X-ray screen stomachs which under our old ideas would be described by the observer as normal, hypertonic and hypotonic, while the fractional test meal expert finds that the secretory activity may vary within very wide limits. In like manner it is found that patients complaining of the greatest distress during digestion, may have any one of the above shaped stomachs, including the "normal," and may have hypersecretion, so-called normal secretion or none at all. To digress for a moment. It is important to note that the stools of any such patient may be perfectly normal, which reminds me of the very important fact that indigestion in the vast majority of cases does not stand for non-digestion, but merely for discomfort during digestion.

It is clear, then, that it is extremely difficult to say on clinical examination alone what is going on in the stomach and what the stomach is like, but, fortunately, it is not often of much moment. Speaking for myself, I find that most often now, after having studied the X-ray findings of many cases, I can make a fairly accurate guess as to the type of stomach present in the patient, but every now and then the X-ray report shows me I am wrong. I was right lately when I saw a colleague who told me that, since his student days, he had had atonic dyspepsia. I told him I thought he had a very hypertonic stomach and the skiagram showed it was so. The stomach emptied in two hours. This discovery did more to relieve him than anything else. It is worth noting that very many men and women who present such marked evidence of want of tone in the skeletal muscles that one would be prone to anticipate a similar condition would be present in the muscles of the stomach, turn out to have the hypertonic type.

If such wide variations in tone and secretion are compatible with digestive health, one may well ask why so many persons spend their lives in a condition alternating between comparatively good digestive health and utter digestive misery. In some the dyspeptic symptoms are undoubtedly associated with temporary increased or decreased peristaltic activity; in others with a variation in their normal secretory activity and, of course, there are variations of the two.

Such changes must be brought about by variations in the nervous impulses reaching the part, either as part of the reflex is started by an abnormal afferent impulse arising in the stomach or by its reaching an abnormally responsive cord. There are, however, many in whom no such changes in motility, tone or secretion can be discovered and it would seem as though in such cases the normal activities of the stomach somehow reach the consciousness. I remember a worried, nervous woman with all the signs suggesting a hypertonic dyspepsia, but in whom X-ray examinations showed everything to conform to our standard of normality. She was very resistant to treatment till a retro-displacement was treated surgically and then quite rapidly recovered. I think we can feel certain that any one of us who, instead of having nothing to remind him of his morning's breakfast but the loss of appetite it brought with it, was now conscious of the peristaltic movements that are going on in connexion with its disposal, would be feeling very uncomfortable.

While admitting the difficulties of diagnosing with which type of stomach we are dealing, that is, as regards tone, secretion and so on, I am sure that if we really try to improve our acumen in watching our patients and their response to treatment and endeavour to collate our clinical findings with X-ray reports when they are obtained, we shall steadily improve and make very few mistakes. Fortunately, as I have already said, in most cases it does not really matter whether we know that our patient has a hypertonus or hypotonus and so on. If we find the underlying cause and remove it, the stomach will usually cease to give discomfort soon after receiving a very little common-sense treatment.

If an X-ray report upon the size and shape, peristaltic activity, tonus, secretory activity and time of evacuations is obtained, it is, of course, a great help and when the patient can easily afford it and access to a good X-ray operator is easy, it is as well to have it done. Of course, where there is reason to suspect organic disease, it must be done, but time will not permit of my going into the indications for such suspicion.

Test meals, especially by the fractional method, with the use of a fine tube which can remain *in situ* and through which portions of the stomach contents can be withdrawn at regular intervals, is also a useful method. It is, however, rarely necessary and unless used a good deal and with careful precautions, may lead you astray. If you do use the test meal method, I would impress upon you the importance of putting your patient into hospital and getting him used to the use of the tube for a few days

before beginning the tests. The psychological effect of the tube on nervous people is very great and you will find great differences in the fluids withdrawn on the first day and, say, the fifth without any treatment at all.

Clinically a good deal of information in those who are not very fat, can be obtained by percussion with and without the stethoscope, if you have the patient first quite flat on the back and then standing.

If there is hypotonus, the tympanitic note disappears from the left hypochondrium when the patient is in the standing position and there is a tendency to have a sinking in above the umbilicus and a prominence below it. This is not usually the case with hypertonic or so-called normal stomachs. If the liver and kidneys are readily palpable on standing, this, too, is in favour of hypotonus and points to general visceroptosis.

A clean, red, pointed tongue is against absence of acid, a burning pain coming on a little or some time after food is most often found with hypersecretion, as also is drowsiness and a sense of profound exhaustion coming after meals. I have not time to deal with the many other symptoms that will occur to you, but I see so many patients who believe that they have heart disease when their digestive functions are alone at fault, that I must say something about this group of symptoms.

No doubt the sense of weakness that so many people feel during indigestion leads them to blame their hearts and I fear sometimes their medical advisers are misled too. Extra-systoles are extremely common in these cases and paroxysmal tachycardia is often cured by treatment of a nervous dyspepsia. Typical anginal attacks I have met with several times in these cases and have seen them disappear. I believe them to be due to a reflex spasm of the coronary blood vessels.

A careful examination of the cardio-vascular system should enable us in the majority of cases to avoid that depressing diagnosis—born of want of confidence in one's diagnostic powers—a weak heart and allow us to assure our patients that the cardiac disorder is purely nervous and of no serious moment.

Treatment.

Let us turn our attention now to treatment. I wish once more to emphasize the importance of a careful search for the real underlying cause. If there is pyorrhea or sepsis in the throat, this must be cleared up. In most cases it will be found that overwork, worry, domestic unhappiness, the general unrest of the menopause or something of this kind is the causative factor. In some the original worry has become over-shadowed by fear of a growth or other organic disease. In these nothing does so much good as a satisfactory X-ray report, a means of diagnosis in which the public has even greater confidence than the physician. Many patients will be quickly cured by being made to take a holiday, which they may also be regarded as taking at your expense, as they would spend more than the cost of the holiday in medical fees without it.

Sedative drugs will be needed in many cases for

a time and will be discussed later when I discuss drug treatment generally.

The questions of diet will always arise. Many will be found to have gradually eliminated so many articles of food that the part played by vitamin deficiency will have to receive serious attention.

May I warn you to avoid being too meticulous in your dietetic details and to be careful not to imagine that any fancy diet you may have found suits your own taste, is the only one for your patients.

Few masticate their food really well and it is a safe rule to indicate this and to see that they have the necessary masticating apparatus.

It is generally conceded that a stomach does better if it gets reasonable rest, so that in most cases insistence of three meals daily, with a full five hours between them, is helpful. The public, misled by the useful practice of giving milk only for a time in some severe gastric conditions of an inflammatory nature, tend to look upon milk as a kind of stomach medicine and think they will derive benefit by drinking it at odd moments, thus depriving the stomach of its chance of getting empty or keeping up a hypersecretion. Generally speaking, these patients do better to take no nutrition between their meals and those with anorexia, who keep to the rule, soon develop a good appetite, though their friends at first expect them to starve. Fluids, especially tea, are best taken between meals; most people with indigestion get on better with dry meals. As to the food itself, I think that condiments, fatty acids, such as result from the process of frying, the coarser kinds of vegetables and excess of carbohydrates should be discountenanced. Apart from this, I generally encourage this type of patient to eat any ordinary food and plenty of it, only giving further details where there is some intercurrent disease, such as nephritis, arterio-sclerosis and so on. There is no justification for the popular idea that red meat is indigestible, while fish, chicken, brains, sweet-breads and tripe are permissible. Meat lightly cooked for the first time and not fried is, when well masticated, one of the easiest foods to digest that we can order in the vast majority of cases. It has the additional advantage of being comparatively cheap and easy to obtain fresh. Fish, on the other hand, is almost unobtainable away from the sea coast and even then is rarely sold in a really fresh condition, while many of the oily varieties are not easy of digestion. Real chicken is, of course, readily digested, but the cost is prohibitive to most people, who have to be content with tough, elderly fowl. Brains, sweet-breads and tripe are, if well cooked, easy of digestion, but few people will tolerate them except as occasional variants of their menus.

Coming now to drugs, in all cases where the nerves appear hyperexcitable, I prescribe some bromide, giving anything from 0.5 to one gramme (from seven to fifteen grains) three times a day, usually before meals. If the patients have a good deal of pain and are very worried I often add one to two mils (fifteen to thirty minims) of compound tincture of camphor to the mixture. If I think the

stomach is hypertonic, I usually add some belladonna to steady the contractions. Strychnine in any form usually makes these patients worse and I never use it except in apathetic people with diminished reflexes in whom I suspect hypotonus with diminished peristaltic activity. To them I give it with a bitter before meals. While the nervous system is being attended to, the local gastric discomforts will in nearly all cases be relieved by the use of alkalies. The mixed carbonates of bismuth, calcium and magnesium make a very good powder, the dose of which can be suited to each case. If the bowels are too relaxed by the magnesia, the proportion of this can be reduced or sodium bicarbonate substituted.

The regular diet with the drugs mentioned usually soon corrects any constipation present and drastic purgatives are best avoided. Where the constipation is a prominent feature the addition of a little cascara to the first bottle or two of the mixture will generally cure it. When the cascara is dropped, some liquid paraffin at night will generally keep the motions soft.

I have omitted to mention the value of complete rest and massage in a few severe cases of the asthenic, wasted type of woman one occasionally meets, with marked hypotonus. In such, the holiday is well preceded by a few weeks in bed with regular massage. If there is delay in emptying the stomach, it is useful to raise the foot of the bed on blocks and to encourage the patient to continue doing this afterwards. Observations with X-rays after opaque meals indicate that in cases of delay in emptying it is a good plan for the patient to lie prone for an hour or so about two hours after meals. The sinking feeling of which these patients complain, is often mitigated by a well-fitting abdominal belt or belt corset, but do not expect that this is going to put the stomach back under the ribs. Last week a patient with hypotonus, needing a pelvic operation, told me that her doctor had advised her to postpone the operation for a few months, while the stomach was got back into position. Once more I would remind you that the trouble is not the fact that there is hypotonus, but that the hypotonic stomach is working badly. The case of Miss M., *ætatis* thirty-four years, will illustrate the point. She was examined by X-rays after an opaque meal on January 29, 1920. The report stated: "Stomach extremely low, five inches below the level of the iliac crests on standing; peristalsis poor, atonic. Definite residue at end of six and a quarter hours." At this time she was very nervous and thin and was vomiting. With massage, dieting, strychnine and the like she put on about 3.2 kilograms (seven pounds) by March 30, 1920, and the X-ray examination was repeated. The report then stated that position, tone and peristalsis were as before, but the stomach was completely empty in five and a half hours. I did not see her again till October, 1922, nearly two years after. She said she had kept much better, but still had indigestion. The X-ray report on October 10, 1922, stated that the stomach was extremely low, fifteen centimetres (six inches) below the iliac crests on standing; that peristalsis was now

definitely increased; that the organ was atonic, empty in four and a half hours.

My remarks about colitis will have to be cursory, owing to my time limit, yet there are few cases more worrying to treat. Remember that chronic dysentery is very liable to be classed as colitis and that when dysentery is chronic, the causative organisms are extremely hard to grow. If blood in any quantity is at all frequently present, ulceration of some kind is there and the case is not purely functional. Chronic dysentery, tuberculosis or some other type of ulcerative colitis or interference by adhesions have to be thought of. Some of the most dismal hours of my life have been spent with patients with colitis associated with post-operative adhesions. But most patients with colitis have no such organic lesion. The relation of appendicitis to these cases has already been discussed. Mucus dominates their ideas and their daily outlook on life is more or less gloomy in proportion to the amount of mucus present in their stools. The majority have some relaxation of the bowels, the commonest type being a tendency to awaken early with a desire to go to stool and thereafter to have four or five evacuations in quick succession. They are then often free from trouble for the rest of the twenty-four hours. Others have stools at irregular intervals in the twenty-four hours, especially after taking food. Once started the peristalsis of the colon seems to be excessive, as also is the secretion of mucus. In other cases constipation is the main trouble or it alternates with the diarrhoea and the scybalous masses are surrounded with very thick mucus. At times quantities of mucus are passed alone, sometimes as a homogeneous mass, sometimes as a cast of the bowel, sometimes as long strings liable to be mistaken for worms. A less common symptom is a tendency to spastic contraction of the colon. This may be very severe and prolonged and be accompanied by obstructive symptoms. In thin people the contracted part of the colon can often be felt as a firm ribbon or rounded swelling of varying length, but in stout people the correct diagnosis is apt to be made on the operating table. My previous knowledge of one patient enabled me twice to save him from the surgeon's knife.

As already stated, the diagnosis depends upon careful exclusion of an organic lesion. Inspection of the stools should always be made by the medical attendant and you will occasionally be surprised to find that a patient complaining of diarrhoea is really passing at frequent intervals small scybalous stools coated with mucus.

In treating these cases first consideration must be given to the nervous side. In all, real worry, overwork *et cetera* must be eliminated if possible. Unfortunately, they usually have many imaginary worries not so easily dismissed. They tend to become querulous, peevish and discontented to the last degree. If you can gain their complete confidence from the start, it is half the battle, as they are very amenable to suggestion. Very thin, miserable, underfed patients had better begin with rest in bed and massage. At the commencement time is well spent in explaining that mucus is a normal constitu-

ent of every stool and that its excess in colitis is in itself of no more importance than is the mucus in the nose and throat that accompanies a cold in the head. Having satisfied yourself by inspecting one or two stools as to the nature of the particular patient's evacuations, do not ask to see any more and discourage the patient from looking behind him. Diet requires careful attention, as most patients suffer from malnutrition. Do not accept too readily their supposed idiosyncrasies, but insist on a liberal, plain, mixed diet, with perhaps the exceptions mentioned under dyspepsia. Especially see that fresh butter, eggs, vegetables and fruit are taken. Where there is a morning diarrhoea a low level lavage with one and three quarters to two and a quarter litres (three or four pints) of plain saline solution as soon as they get up or after the first evacuation will often clear the bowel and restore a regular single evacuation.

Drug treatment should aim mainly at improving the nerve tone. Bromides are often needed at first and sometimes opiates under disguised names. Many derive benefit from iron and arsenic. Astringents and intestinal antiseptics have, I think, a very limited sphere of usefulness. Constipated patients usually benefit from paraffin.

In conclusion, I must apologize for the extremely sketchy nature of my address. I am as fully conscious as you are of the innumerable things I have left unsaid, but I have had to traverse a very wide subject in a very short time. Some of the ideas and theories I have put before you are admittedly entirely my own. Some day you may be in a position to know that they are wrong, but I can assure you that in taking them as a working hypothesis for the treatment of these cases, I have had no reason to be dissatisfied with the results.

Reports of Cases.

AURICULAR FIBRILLATION; DEATH AFTER ADMINISTRATION OF QUINIDINE SULPHATE.¹

By C. T. DE CRESPIGNY, M.D., M.R.C.P.,
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G.G., male, single, a carriage builder, aged thirty-seven years, was admitted to the Adelaide Hospital on September 29, 1922, with a history of increasing shortness of breath and cough of seven weeks' duration. There was no sputum. The onset had been sudden, with pain in the pit of the stomach. There had been no cyanosis, no oedema and no noticeable diminution of urine.

Past History.

He had had no illness except influenza. He admitted moderate indulgence in alcohol; he was a light smoker, gave a doubtful venereal history, had not been a miner, had not been exposed to lead and was not very athletic.

Physical Examination.

The patient was slightly cyanosed. His temperature was 36.7° C. (98° F.), his pulse-rate 88 and his respirations 22. The heart was enlarged, the cardiac dullness extending from the third left costal cartilage to the sixth rib and from

¹ Read at a meeting of the South Australian Branch of the British Medical Association on November 30, 1922.

the right edge of the sternum to ten centimetres from the mid-line. The apex beat was diffuse, in the fifth space, ten centimetres from the mid-line. There were no bruits. The rhythm was irregularly irregular. The liver dulness extended one finger's breadth below the costal margin. There was no oedema.

The specific gravity of the urine was 1,020; the urine was acid; it contained no albumin nor sugar. Hyaline and epithelial casts were present. The quantity was at first diminished (one-third of a litre during the first twenty-four hours; afterwards it decreased again from 2.5 litres to about three-quarters of a litre). The temperature was sub-normal throughout. The Wassermann test was applied, but no reaction was obtained.

Course of Illness.

On admission he was given tincture of digitalis in doses of 1.8 mls every six hours for twenty-four hours and then 1.2 mls every six hours. Twelve days later quinidine sulphate was given three times a day in doses of 0.2 gramme for two days and thereafter in doses of 0.4 gramme every four hours. Three days later his pulse rate was 100 and quite regular. Examination of the heart revealed a systolic bruit at the apex. The apex beat was 1.25 centimetres outside the nipple line. The same day at 4.30 p.m. there was a sudden onset of coma with clonic spasms, but no evidence of paresis. The right pupil was fully dilated. He died at 9 p.m., having regained consciousness for a short time before hand.

Post-Mortem Examination.

The heart weighed 454 grammes and was large and flabby. There were no signs of any valvular disease. There was some *post mortem* clot in the right auricle, but no sign of any *ante mortem* thrombosis. The coronary vessels were normal. There was no disease of the vessel walls. There was about half a litre of straw-coloured fluid in the right pleural cavity and a quarter of a litre in the left. The liver and kidneys showed chronic congestion. No signs of any embolus were detected in the brain, though the whole course of the internal carotid arteries in the neck and through the skull was not examined.

Histological Examination.

Professor Cleland reported that he could detect no microscopical changes in the brain beyond congestion of the capillaries. The wall of the right auricle showed slight infiltration with fat. A section made over the site of the auriculo-ventricular node showed an area of considerable fibrosis, but no round-celled infiltration. In this area the muscle cells and the fibrosis were about equal in amount.

A CASE OF PRIMARY MULTIPLE TUBERCULOMATA OF THE LIVER WITH A DEGENERATED HYDATID CYST.¹

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AND

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In the *Medical and Scientific Archives* of the Adelaide Hospital (1921, page 3) a case is described of hydatid daughter cysts in the gall bladder with jaundice. We are now able to report the final outcome of this case, the *post mortem* examination revealing, in addition to a degenerated hydatid cyst, the presence of a number of caseous tuberculomata of the liver. Death was immediately due to tuberculous meningitis.

The patient, a male of thirty-six years, had had attacks of jaundice. Eventually laparotomy was performed and two small, bile-stained, degenerated cysts were found in the gall bladder. A number of rounded projections were

felt at the operation in the upper surface of the liver. These were presumed to be further degenerated hydatid cysts. The autopsy, however, showed them to be large tuberculomata and there was, in addition, a large, tuberculous abscess cavity in the hinder portion of the right lobe. In the interval between the right and left lobes of the liver a degenerated hydatid cyst in its adventitious capsule was met with. From this position it had apparently interfered with the nutrition of the left lobe of the liver, which had undergone extreme atrophy, being no longer laterally than 3.8 centimetres. Presumably from this mother cyst the small daughter cysts found in the gall bladder had been derived by rupture into the bile duct. Probably there had also been a rupture into the peritoneal cavity, the presence of small cysts in the tissues of the recto-vesical pouch being best explained in this way.

During the course of the autopsy the appearance presented by the caseous tuberculomata suggested the possibility of these being alveolar hydatids. These areas were not uniformly cheesy, but presented a partly cystic-looking appearance. The absence of hydatid membrane in the microscopic appearances and the finding of tubercle bacilli exploded this view. Primary tuberculomata of the liver are very rare. That the liver was the primary site of infection in this case is supported by collateral evidence. At the autopsy changes in the pia-arachnoid at the base of the brain were seen. These suggested tuberculous meningitis. A careful search was made through all the organs and tissues for a primary tubercular lesion, from which the meningitis might have been derived. At this time the tuberculous nature of the liver lesion had not been recognized. No such primary source was detected and the conclusion was then come to that the lesions in the brain were not those of tuberculous meningitis. It seems reasonably certain, however, they were really tuberculous.

Post-Mortem Examination.

Scattered in places through the substance of the right lobe of the liver and associated more or less in groups are small, whitish, caseated areas, usually about six millimetres in diameter, sometimes much smaller, and occasionally running together to form larger areas up to eighteen millimetres in diameter. These are especially numerous a little posterior to the centre of the right lobe, near its upper aspect, and in the left half of this lobe, but small groups may be met with almost anywhere in this lobe. The areas are irregular, but tend to be sub-spherical. The cut surface may present a uniform, white appearance, but usually shows a number of little pit-like cavities, giving it a spongy appearance. These caseated areas cannot be easily shelled out of the surrounding liver substance, as is usually the case, as Dr. Bull has pointed out, in degenerated hydatid cysts. The caseous areas are not surrounded by any zone of fibrous tissue recognizable macroscopically.

On the inferior aspect of the right lobe opposite the part where the right kidney is in proximity to the liver is a large abscess cavity (5.5 centimetres in length and 3.5 centimetres in depth), containing broken-down, caseo-purulent contents and presenting a very ragged wall of tuberculous granulation tissue. This tuberculous granulation tissue has infiltrated the peri-nephritic tissues and extended through to the kidney itself about 2.5 centimetres from its upper end, slightly eroding this organ, the invaded part being lined by ragged granulation tissue. Where the abscess cavity is bounded in front by liver tissue, this shows a thick zone of fibrosis (eighteen millimetres thick) with caseous tubercles near the cavity.

The left lobe of the liver is extremely atrophied, being reduced to a rather fibrous and irregular tongue of tissue 3.8 centimetres in lateral extent, 6.2 centimetres antero-posteriorly and 2.5 centimetres in thickness. On the extreme left edge of this lobe is a caseous nodule 1.2 centimetres in diameter. At the junction of the right and left lobes and presumably explaining the atrophy of the left lobe, is a broken-down hydatid cavity about two centimetres in diameter, containing the remains of membrane, the lamination of which was recognized microscopically. Amongst the contents is a fragment of orange-tinted (bile-stained) calcified material. The wall of this cavity is ragged and surrounded by dense fibrosis. This cavity apparently communicated with the bile ducts and from it the daughter cysts found at operation in the gall bladder

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were presumably derived. On tracing the bile ducts, some of these were found to bear a very close relationship to the caseous nodules in the right lobe, though none of these shows any bile staining. At the *post mortem* examination these appearances suggested that the caseous areas were the result of seeding of small hydatid cysts by the bile channels. The right suprarenal capsule is not involved.

In the recto-vesical pouch are some adherent, flaccid, small hydatid cysts, presumably seedlings from the mother cyst between the right and left lobes.

No other lesions of note were detected in the abdominal or thoracic viscera and no other evidence of tuberculous lesions were found, although such lesions were specially searched for, as, on removing the brain, the *pia mater* around the base and in the Sylvian fissures showed slight thickening and a few elevations and thickenings suggestive of tubercles. As the caseous lesions in the liver were not recognized at the autopsy as being tuberculous and no other lesions were detected suggestive of a primary lesion from which the meninges might have been seeded, the slight changes in the membranes at the base of the brain were considered as of little importance. The clinical history, however, the finding of tubercle bacilli in the liver lesions and the type of reaction in the *pia mater* point to the condition being tuberculous meningitis and the immediate cause of death.

During the course of the autopsy, laminated hydatid membrane was easily recognized in the contents of the cyst between the two lobes. Repeated examinations of the caseated areas showed no definite structure and no evidence of hydatid cyst wall. A rapidly-cut frozen section of a caseated area examined by Dr. Bull showed definite caseation suggestive of tuberculosis, the presence of giant cells and no evidence of alveolar hydatid. Fortunately some of the liver was still available unpreserved for inoculation purposes and a small quantity of the caseous material was inoculated into a guinea-pig.

Histological Examination.

Sections of the degenerated areas in the liver show large central caseated masses surrounded by a ring of dense fibrosis in which occasional large typical giant cells can be found. This connective tissue wall binds together adjacent caseated foci and invades the surrounding liver substance to some extent. By Ziehl-Neelsen's staining tubercle bacilli were recognized in these areas. The large abscess cavity in the right lobe shows also the presence of caseous material and giant cells.

Comment.

This case is of interest for several reasons: Firstly, hydatid cysts were present and caused unusual symptoms and lesions. Secondly, primary tuberculomata of the liver were present, a rare form of tuberculosis of this organ.

First, as regards the hydatid disease, the mother cyst at the *post mortem* examination was found to be degenerated. From its position between the two lobes it had apparently been the cause of the almost complete atrophy of the left lobe. From its rupture into a bile duct the small, bile-stained, grape-skin-like cysts found during laparotomy and shown microscopically to be hydatid in nature, must have been derived. It is reasonable to attribute the occurrence of jaundice to obstruction in the bile channels by similar daughter cysts. The several small hydatid cysts in the recto-vesical pouch are also best explained by a peritoneal rupture of this same mother cyst. The failure of the hydatid complement fixation test on September 6, 1921, is to be noted.

As regards the tuberculous infection, it is to be noted that no old tuberculous lesions were met with in other parts, though specially searched for. How did this infection arise and was it in any way associated with the hydatid disease or, put in other words, had the patient not been infected with hydatids, would the tubercle bacilli not have established themselves? It is not possible to answer either of these questions. The deposition of the tubercle bacilli was presumably by the blood stream. General experience would suggest that the liver tissues are in general specially capable of overcoming tubercle bacilli that become arrested in their capillaries. Even in generalized military tuberculosis, tubercles are rarely numerous in the liver. It may be that in this case the jaundice

due to obstruction from hydatid cysts may have lessened this protective influence of the cells of the liver, with the result that an accidental introduction of tubercle bacilli, perhaps by the alimentary canal, had led to their establishment in the liver.

Was the large abscess cavity, lined by tuberculous tissue, the site where the tubercle bacilli first lodged in the liver? This is quite likely and it is possible that here was located originally an hydatid cyst. The tuberculomata deposited throughout the right lobe of the liver might have arisen from tubercle bacilli distributed from such a site by lymphatic channels accompanying the bile ducts.

THREE CASES OF HEADACHE OF INTRA-NASAL ORIGIN.¹

By W. SANGSTER, M.D., B.S. (MELBOURNE),
Adelaide.

It is a well-known fact that certain intra-nasal conditions give rise to headache and pain in the forehead. My excuse for bringing forward this subject is that many people suffer from frontal headache and pain over the eyes and the eyes are blamed for the trouble when the nose is really at fault; such was the case in the patients whose histories follow. I wish to emphasize the fact that these conditions are commoner than is generally supposed.

The first patient, Miss M.P., *etatis* nineteen years, gave a history of having suffered from frequent headaches for the previous two years. She had had her eyes examined on several occasions during that period and glasses had been prescribed with only partial relief. Her general health had always been good.

Vision was $\frac{5}{6}$ in both eyes; refraction showed 0.5 dioptre of astigmatism in each eye; with a $+$ 0.5 dioptre cylinder in the vertical axis to each eye she could read $\frac{5}{6}$. This was the correction she had been wearing for the previous six months without relief from the headaches; there were no muscular errors.

Examination of the nose revealed enlargement of the anterior ends of both middle turbinals; both of these structures were in contact with the septum. On cocaineizing this region she lost the unpleasant feeling of constriction over the bridge of the nose. The anterior ends of both middle turbinals were removed and she obtained relief from all her symptoms.

The pain in this case was due to a reflex from the pressure in the nose.

The correction of an error of refraction in these cases will not give complete relief until the pressure in the nose is removed.

The second patient was Miss G.W., *etatis* sixteen years, who complained of frontal headache and pain over the right eye at intervals during the previous two months. She was seen first by Dr. John Muirhead, who reported that he could find no ocular defect to account for the trouble and suggested that it might be due to some nasal condition.

She had definite tenderness over the right frontal area; there was no deviation of the septum, but the right middle turbinal was incarcerated. There was no pus visible anywhere nor other evidence of sinus disease.

Removal of the anterior end of the right middle turbinal cleared up the trouble and she reported a month later that there had been no return of the symptoms.

In this case there was interference with the ventilation of the frontal sinus, the middle turbinal obstructing the outlet of the infundibulum, producing a vacuum headache.

The third patient, Mr. S.N., *etatis* thirty years, had had headache and pain over the eyes, particularly the right, for twelve months. He thought that the eyes were the cause of the trouble. The vision of both eyes was $\frac{5}{6}$. No ocular defect was found.

In the nose the septum was markedly deviated to the right, opposite the middle turbinal; the right middle turbinal could not be seen on account of the deviation. A

¹ Read at a meeting of the South Australian Branch of the British Medical Association on November 30, 1922.

sub-mucous resection of the septum was performed and the right middle turbinal was found to be enlarged, with polypoid degeneration present. This was blocking the middle meatus.

The anterior half of the middle turbinal was removed, together with all diseased tissue. This was followed by disappearance of the frontal pain and tenderness.

Two months later an examination showed that there were no polypi present in the middle meatus and there had been no further headache or pain. This case apparently was due to blocking of the infundibulum; the obstruction had interfered with the drainage and ventilation of the frontal sinus. There was nothing to indicate definite sinus disease, but in all probability the lining membrane of the frontal sinus was being irritated if actual inflammatory changes had not already set in.

TWO UNUSUAL CASES OF ABDOMINAL CANCER.¹

By J. BERNARD DAWSON, M.D. (LOND.), F.R.C.S. (ENG.),
Glencelg, South Australia.

A WELL-NOURISHED, otherwise healthy woman, sixty-two years of age, complained of abdominal distress of eight weeks' duration. She presented all the usual signs of partial and increasing intestinal obstruction. Her abdomen was distended. No tumour could be felt, but coils of distended bowel were visible and palpable in positions that varied daily.

After fourteen days wasted in trying some much-vaunted cure consisting of a dietary of nuts and fruit, assisted by massage, she consented to an operation.

The radiographic findings were that the bismuth meal was expelled from the stomach in average time, that the bismuth was evenly distributed throughout the intestinal canal, but that none could be seen beyond the hepatic flexure of the colon.

The clinical picture seemed to fit the diagnosis of carcinoma of the large intestine, especially as the vomiting was slight and the distension increasing and general. Abdominal palpation under the anæsthetic fortunately revealed a palpable tumour situated 7.5 centimetres to the right of the umbilicus, a small, hard lump anchored posteriorly. Exploration showed this to be a ring carcinoma of the small intestine. Herein lies the interest of the case. Clinically it presented nothing unusual.

The operation, with the details of which I will not weary you, presented no unusual features. I removed fifty centimetres of small intestine and the mesenteric glands that were enlarged. At the outset I planned to excise only twenty-five centimetres of gut, but the dissection of the glands so damaged the blood supply of the adjoining bowel that for safety's sake I removed another twenty-five centimetres. The union was a lateral one. The recovery was uneventful and the functional result satisfactory.

Bland Sutton, in his book on "Tumours," says that cancer of the jejunum and ileum is very rare and adds: "As far as I am aware, the diagnosis of primary cancer of the small intestine has not been made, for, when seated in the small gut below the duodenum, cancer usually gives rise to signs of acute obstruction." In my case the obstruction was not acute, but it is consoling to know that primary diagnosis of the condition is unusual.

The second patient was an extremely emaciated, small woman of sixty-four years, who came to me complaining of a "craving." On analysis of this term, it transpired that she meant that she had an intense desire for food, followed by severe nausea when confronted with it. Her loss of weight had been rapid and she had complained of progressive weakness. There had been no vomiting. Upon examination it was at once obvious that she had a tumour, for a mass the size of an orange was clearly visible in the mid-line, just above the umbilicus. Her abdominal

wall was extraordinarily spare and retracted, throwing the tumour into prominence.

Manual examination revealed the fact that the lump was unusually mobile; in point of fact, there was no part of the abdomen to which it could not be pushed, but it was not possible to place it in the pelvic basin. It was elusive and slipped about in an amazing fashion. My primary diagnosis was carcinoma of a prolapsed transverse colon.

She readily consented to an operation, which I performed two days later. The lump proved to be a cancer of a prolapsed stomach. The dependent position of the stomach and the spareness of the patient made the case an excellent one for a sub-total gastrectomy, which I decided to attempt. The tumour was roughly hemispherical, with a diameter of 7.5 centimetres (three inches) and situated in the centre of the anterior wall of the viscus. After excising as much of the stomach as I thought I could spare, I closed the severed duodenum and also the remains of the stomach. I then found that I had a portion of the cardiac end of that organ making an equilateral triangle with sides measuring six centimetres (two and a half inches). To the anterior wall of this I anastomosed by suture the nearest portion of the jejunum. After suturing the upper edge of the great omentum to the lower edge of the gastro-hepatic omentum, I closed the wound. The operation occupied an hour and a half.

The patient returned to bed in excellent condition and made an uninterrupted recovery. She was fed *per rectum* for five days and then received by mouth food gradually increasing in quantity and consistency. She returned home at the end of a month.

This operation was performed seven months ago. She is now in good health, has regained her lost weight and had added to it. She is of the artisan class, but is able to take without discomfort the ordinary diet of a household that is not blessed with a skilful cook. In fact, a meal of meat and vegetables, accompanied by tea, both hot and strong, is digested with apparent ease.

The growth is an adeno-carcinoma; it had undergone no colloid change and was not ulcerated.

The points about the case that appear to me interesting are:

1. The extreme mobility of the tumour.
2. The absence of severe subjective symptoms.
3. The compact, undegenerated appearance of the growth. It belonged to a class of tumour that I have seen somewhere that I cannot remember, described as the "bun-shaped cancer of the stomach."
4. The very satisfactory functional result following the sub-total gastrectomy.

ON AN APPARENTLY UNDESCRIBED FORM OF LIGNEOUS OEDEMA OF THE NECK.¹

By ROBERT PULLEINE, M.B., CH.M. (SYDNEY),
Adelaide.

I. IN May, 1916, a man of forty years of age came to me with a remarkable swelling of the neck. Professor Watson, who had just returned from Egypt, examined him with me.

This swelling reached from the lower margin of the inferior maxilla backwards to the angles, down to the sternum and half way along each clavicle.

From the point of the chin down to the sternum it was in a straight line; on palpation it gave the impression of rubber, dense and not pitted by pressure. There was no rise of temperature, little feeling of malaise, no interference with phonation or deglutition. There was no swelling in the floor of the mouth and the tongue was not pushed up. After four days in bed with applications of "Anti-phlogistine" the swelling subsided and as it did so a small fistula appeared in the median line below the cricoid at the level of the thyroid isthmus. It was discharging a little and was recognized as the opening of a patent thyroglossal duct. A few days later the duct was injected with methylene blue and dissected out up to the hyoid bone. Since then there have been no further attacks of oedema.

¹ Read at a meeting of the South Australian Branch of the British Medical Association on November 30, 1922.

¹ Read at a meeting of the South Australian Branch of the British Medical Association on November 30, 1922.

II. A.S., *etatis* twenty-five years, a prominent Adelaide business man, who had enlisted in Sydney, was training in Liverpool Camp in October, 1917.

Some twelve years before he had a persistent thyro-glossal duct treated by injection with iodine.

While in camp his neck began to swell and a solid mass reached from his chin to his sternum, spread above to the angles of the jaw and below half way outwards along each clavicle. There was no swelling of the floor of the mouth, but some soreness at the back of the tongue and a little difficulty in swallowing.

He went to Sydney and saw Dr. Brady. Under his treatment the swelling subsided in five days and a month later, when I saw him, nothing was to be seen except the little dimple marking the opening of the thyro-glossal duct. This was removed up to the hyoid bone and there has been no recurrence.

III. Mr. T.J.W., aged fifty years, a school master, of Balhannah, was seen by Dr. Auricht, on November 27, 1919. He had also been seen by Dr. Ray.

He was just recovering from a swelling of the neck, of which he gave me a graphic account, saying that his chin reached to his collar bone. When I saw him it had not quite subsided and there was a dense plaque reaching out on each side to the carotid sheath. In addition, there was an elevated, soft swelling, reaching from the cricoid nearly to the supra-sternal notch, but no dimple or sinus. A soft, thin, pencil-like mass could be felt in the middle line from the cricoid to the hyoid bone. A closed, persistent thyro-glossal duct was diagnosed.

A few days later, assisted by Professor Watson, I cut down on the duct and followed it up to the hyoid bone, where it was detached. The lower end was dilated and filled with pus, with lateral pockets spreading downwards and under the sterno-thyroid muscles; pus escaped early and we found a large, irregular cavity spreading towards the anterior mediastinum and lined with granular pyogenic membrane which gave no hold to the forceps. Traction brought the thymus into view. After all the membrane was removed, the wound was closed and drained. Dr. Bull reported that the membrane removed was tuberculous in origin.

As may be expected, the wound did not heal well and his convalescence was interrupted by broncho-pneumonia and pleurisy. However, he eventually returned to work and stuck to it until June, 1922, when he died in the Adelaide Hospital from pulmonary and laryngeal tuberculosis.

Now all these cases were undoubtedly of the same nature, infection of the planes of the neck spreading outwards as far as the carotid sheath. In each case the infection originated in the persistent thyro-glossal duct, which in two cases was patent.

Persistence of the duct is apparently a rare condition and I have only operated on eleven in fifteen years.

Professor Watson tells me, however, that with the formaline-carbaine injection he used on cadavers the potential duct was stained selectively (in addition, cerebral grey matter and salivary gland tissue) and could be demonstrated in nearly every subject.

It begins at its lower extremity at the isthmus of the thyreoid and extends upwards to the median line of the hyoid bone, where it usually stops, but may pass into the tongue forming the lingual duct, terminating at the *foramen caecum*.

Persistence of the lingual duct with retained secretion gives rise to the so-called dermoids which cause a median swelling between the hyoid and the chin; or very rarely a round, yellow, loquat-like body may project from the back of the tongue from the *foramen caecum* and cause great difficulty in swallowing and in one case I saw genuine starvation.

I have operated on two of these by dividing the hyoid and evacuating the cyst through the wound.

My reason for reporting the three cases of oedema is that, as far as I can gather, it is an unrecorded disease. I have made an extensive search in all available literature, periodical and otherwise, in our library and elsewhere and, although such conditions as Ludwig's angina, *et cetera*, are abundantly recorded, I can find nothing that even distantly resembles the condition. That it must occur everywhere from time to time is certain and I hope these notes will draw attention to and aid in the recognition of a rare and interesting infection.

Reviews.

TROPICAL DISEASE.

THE fourth edition of Stitt's popular manual on the diagnosis and treatment of tropical disease bids fair to fulfil the promise of its predecessors.¹ The author states that every chapter of the book has been carefully revised and brought up to date; considerable additions have been made to the text and to the number of illustrations. The more important additions comprise chapters dealing with epidemic jaundice, rat bite fever, tularemia, trench fever and tables of diseases due to or conveyed by helminths and anthropods; in the section dealing with diagnostics there is a new chapter dealing with the differentiation of tropical joint, muscle and bone lesions. There is also some new matter on acidosis and the significance of various findings in blood chemistry in the section relating to diagnostic problems and procedures and in that on blood examination.

Stitt states that, accepting Noguchi's spirochaetal aetiology of yellow fever, he has transferred his chapter on this disease to the section dealing with protozoal diseases. It is to be recollected, however, that the spirochaetes are now generally regarded as non-protozoal and that if *Leptospira icteroides*, the causative organism of yellow fever, is so included, it appears inconsistent to relegate seven-day fever with the morphologically similar *Leptospira hebdomadis* to a subsequent and unrelated chapter. It may be, of course, that Stitt does not consider the causal relationship of this disease and this organism to be sufficiently proven. In the chapter dealing with trematode infestations the use of the name *Clonorchis endemicus* is to be found, although *Clonorchis sinensis* is general. *Clonorchis endemicus* suggests the small form of *Clonorchis sinensis* that was, for a time, regarded as a distinct species.

It is doubtful whether the set of maps distributed throughout the book and purporting to indicate the spread of various diseases, is a feature of value. In every instance where Australasia is implicated, the disease distribution is inaccurately portrayed. Leprosy is shown covering with a black pall the whole of Australia save the central desert and the Northern Territory, whereas not 1% of the general practitioners in the areas marked, have ever seen a leper, and the uncommon infections that do occur, are seen in precisely that area shown as free, namely, the coast of the Northern Territory and North-West Australia. Similarly, the whole of New Zealand figures as a focus of beri-beri; filariasis, which occurs in scattered coastal patches of Queensland and northern New South Wales, is shown blackening the map as far as the Queensland-South Australian border; New Guinea, a region where the disease is prevalent, appears free. The distribution of hookworm disease shown is similarly misleading. The general compilation of the book is extremely good and typographical errors are few. The respective captions under Figures 31 and 30 have accidentally been transposed and therefore do not apply.

If a general criticism be allowed of so excellent a manual, it is that an endeavour to miss no point of importance and yet to keep within the limits of a "pocket manual" has resulted in an overcrowding of data and an under emphasis of the more important features of certain of the diseases.

This is the case, for example, with the fifty-four pages of the section devoted to malaria. Moreover, much space is utilized in regard to methods of treatment of various diseases which are now purely matters of historical interest. While this is fully justified in larger text-books, in a manual for practical guidance such as this, it serves merely to blind the issue to the inexperienced.

On the other hand, certain chapters, such as those on beri-beri, pellagra and so forth, are excellently compiled and of the greatest interest and value. In the chapter dealing with tularemia much information, unobtainable in most other manuals to date, is set out in an interesting and instructive manner. On the whole, the book is a most valuable manual to both student and medical practitioner in the tropics and no one who is interested in the diseases of hot climates, will willingly be without it.

¹ "The Diagnostics and Treatment of Tropical Diseases," by E. R. Stitt, A.B., Ph.G., M.D., Sc.D., LL.D.; Fourth Edition, Revised; 1922. Philadelphia: P. Blakiston's Son & Company; Post 8vo., pp. xiii. + 622, with 159 illustrations.

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Medicine at the British Empire Exhibition.

As long ago as 1913 the late Lord Strathcona suggested that the time was ripe for a renewed display of the resources of the great British Empire. His long association with Canada and his personal experience of the extraordinary growth of this mighty union of nations had taught him that even empires needed to advertise if they would retain commercial supremacy. The proposal was that an exhibition should be organized at which every component part of the British Empire would be represented. In those days the only governmental department having facilities to deal with matters connected with exhibition was the Board of Trade. It does not seem to have been seriously considered by anyone in authority that exhibitions may have an object infinitely more urgent and infinitely more important than that of improving the trading opportunities of individuals and of nations. On many occasions this aspect of the exhibition as an instrument for reaching the masses and of imparting wholesome lessons concerning themselves, their minds and bodies and the maintenance of health had been brought to the notice of the British Ministry. The idea did not appeal to the moulders of the nation's destinies. Trade deserved support, because the Treasury had need of a wealthy community. The preservation of health in those days was entrusted to the Local Government Board, an inept institution without ministerial head or adequate constitution. Commercialism prevailed and mass education was allowed to limp behind as best it might.

The idea of a British Empire Exhibition was not forgotten when war engaged the attention of the sons of Empire. In 1920, at the suggestion of His Royal Highness the Prince of Wales, the scheme was resurrected and at a great meeting at the Mansion House it was resolved that the proposal "to hold in London a great exhibition for the purpose

of promoting trade within the Empire" was endorsed. Even in 1920 trade, not enlightenment, took the first place. It may be admitted that every British citizen (the word British being used in the Imperial sense) is immeasurably proud of the position our Empire occupies and recognizes that her strength is largely the result of the trading instincts of the British people. In 1886 the value of goods exported from the United Kingdom to other parts of the Empire amounted to over seventy-five and a half million pounds sterling. In 1920 the value had increased to over five hundred and one millions. Imports from the oversea portions have grown in approximately the same proportion. In 1920 the aggregate tonnage of ships on the register of the British Empire amounted to over twenty and a half million tons. The area and the population of the Empire have increased by the transference of the colonial territories taken from the German Empire during the war. Since the last Empire exhibition in 1886 new great railways have come into being, including our own Transcontinental Railway from Port Augusta to Kalgoorlie. Such valuable assets as these, and there are innumerable others that everyone can recall at a moment's notice, speak eloquently of the soundness of the Empire's business relations. It is a wonderful record, but there is something else needed to safeguard the future of our vast, strong Empire. That something is an entirely satisfactory health budget. Much has been begun in order to produce a big balance. The institution of the National Health Insurance and the establishment of the British Ministry of Health are immensely important steps in this direction. In the profit and loss account the total expenditure has to be balanced against the saving of lives and the improvement of the general standard of health. To achieve great effects the public must be educated to take an interest in the causes of disease, in the mechanisms underlying health and its disorders, in the details of the new science of preventive medicine. The British public does not care for detail. It prefers to see the finished achievement, the record of industry and ingenuity. Educationally it is satisfied with superficial knowledge and with rapidly acquired technical skill. The proportion of the unskilled to the skilled worker is much too high. Since

every means should be adopted to alter this state of affairs, the opportunity offered by the forthcoming British Empire Exhibition must not be neglected.

About a year ago Major E. A. Belcher visited Australia on an Empire tour in his capacity of Assistant General Manager of the British Empire Exhibition. The Exhibition is to take place at Wembley Park, a few miles to the north-west of London, in 1924. Major Belcher delivered an extraordinary message from his executive council. It is that of the four objects of the Exhibition, the third is to be scientific. Committees have been formed "to arrange displays calculated to arouse public interest in all efforts to conquer disease and unhealthy conditions of existence." Notwithstanding the Mansion House resolution, notwithstanding the one determination of the British Government to regard exhibitions as trade propaganda pure and simple, the position is reversed and education is to be recognized as a legitimate function of these organizations.

Recently various panels have been formed in the several States of Australia for the purpose of preparing the Australian participation at the Exhibition. The panels dealing with music, art and education will need subdivision and the medical part will have to emancipate itself from the other portions with which it is incompatible. The medical profession in the Commonwealth should accept the responsibility of organizing a valuable and instructive exhibit to be sent to London next year. There are many messages that can and should be sent to the people in the old country concerning the problems of medical science and hygiene as they appear to Australians. Great care will have to be exercised to avoid unsuitable objects and subjects for display. It is probable that the overseas medical and hygienic exhibits will be housed in a general section, to be known as the Education of the Empire Section. Unfortunately, medicine will have strange bed-fellows, including the fine arts, industrial art, books, book-binding and maps. The alternative, to place these exhibits among the Australian trade products, would be a mistake. The admission of a purely educational scientific display is so great a concession that we should not cavil at the disadvantage of association with the art of cinematography. At a later date, perhaps hygiene may have an exhibition all to itself.

A TIMELY WARNING.

IN August of last year the attention of readers was drawn to a reference in the Annual Report of the Council of the British Medical Association to "certain newer journalistic methods of advertising by members of the medical profession." It will be remembered that the Council approached the General Medical Council with the request that an official pronouncement on these practices be issued. The General Medical Council required more specific instances of indirect and subtle forms of advertising before it would be prepared to take action. On December 1, 1922, Dr. R. A. Bolam, a representative of the British Medical Association on the General Medical Council, presented a motion calling upon the executive committee to consider and report upon the prevalence of oblique or indirect advertising by medical practitioners in the lay press. At the suggestion of the President the wording, but not the meaning, of the motion was altered and in its altered form it was adopted. Medical practitioners are recommended to read the report of Dr. Bolam's speech, which appears in the Supplement to *The British Medical Journal* of December 9, 1922. It contains messages to the whole medical profession of too great importance to be ignored. Dr. Bolam gives a list of the more subtle and insidious methods that are being used with increasing frequency. The least objectionable is the notice of a personal nature concerning persons related to a practitioner, in which the practitioner's name and some laudatory description are included. Then he instances the addition of qualifications and the professional address of doctors in the advertisements of engagements or marriages. The third offence is the announcement of illness or absence from home of medical practitioners. Dr. Bolam suggests that notices of change of address and the like might be regarded rather as "matters of taste" than offences, but he is obviously inclined to the opinion that there is but a hair-line between these announcements and frank advertisement. The next on the list is the article or letter published over the name, professional qualifications and professional address of a practitioner on matters of current public importance. Closely allied to this method of advertisement is that in-

volved in the notice concerning the illness of a prominent public personage, when the name and at times the opinions of the attending practitioner are given. Still more flagrant and less subtle are the advertisements of medical practitioners who announce that they receive patients at certain addresses. Interviews by newspaper men with medical practitioners, at times embellished by portraits of the offenders, come next. Lastly, he refers to the appearance of repeated articles by one person in lay journals, expounding the experience and importance of the writer in connexion with medical matters. It will be seen that, according to Dr. Bolam's views, there is a growing tendency on the part of the medical practitioner to use the public press as an indirect means of attracting practice. At times the advertisement is inserted by friends, patients or relatives of the practitioner and in these instances the latter cannot be held responsible for the first announcement. But, as Dr. Bolam points out, these objectionable articles and notices are regrettable, whether the medical practitioner inspires them or whether they are the work of a journalist. Moreover, it is not unreasonable to maintain that they can be prevented in nearly every instance. It must be understood that medical practitioners have ordinary rights as citizens and that medical ethics in no way interfere with the proper and dignified exercise of these rights.

In the course of time the General Medical Council will deliver its considered opinion and ruling on this very important matter. It does not appear as if there could be any doubt as to the nature of this ruling. At present the Council has announced in its "Warning Notice" that practitioners who issue or sanction the issue of advertisement of an objectionable character with a view to their own gain, are guilty of "infamous conduct in a professional respect" and are liable to have their names removed from the Medical Register. This part of the "Warning Notice" will, no doubt, be amended, so as to include the oblique forms of advertising to which Dr. Bolam refers.

It is advisable to remind members of the medical profession of the limitation of the powers of the British Medical Association in regard to offences against the ethics of the medical profession. The British Medical Association is prohibited by its

Memorandum of Association from acting as a trade union. It cannot apply methods of compulsion. All it has the power of doing is to adopt rules which its members are required to obey. It has no authority to determine what is "infamous conduct in a professional respect" and even if it relied on the finding of the General Medical Council in this respect, it could not purge the profession of offenders against the recognized code of ethics.

In Great Britain the British Medical Association frequently appears before the General Medical Council, which is a statutory body, as complainants in the so-called disciplinary cases. As a voluntary society or club it acts in this connexion like a private individual may act. In laying information against a member of the medical profession it is guided solely by the desire to uphold the dignity and honour of the profession. In Australia the Branches of the British Medical Association, with the exception of the New South Wales Branch, labour under a great disadvantage in that the statutory bodies, the Medical Boards, are not specifically empowered to remove the names of medical practitioners for "infamous conduct in a professional respect."

We have recently urged that this anomaly should be immediately removed by the surrender of the sovereign rights of the States in regard to medical registration, so that the Federal Government might introduce legislation for the whole Commonwealth, clothing the local Medical Boards with full powers of registration and de-registration. The frequency of oblique methods of advertising in Australia cannot be checked without the aid of Medical Boards possessing all the powers of the General Medical Council. Every day provides an additional reason for this reform. Until it is achieved the Branches of the British Medical Association must be content to warn its members of the seriousness of this growing practice and to refuse to permit habitual offenders to enjoy the privileges of membership.

Dr. Bolam is justified in his contention that an extension of this system of covert advertising must inevitably undermine the honourable traditions and dignity of the medical profession.

Current Comment.

SALINE PURGATIVES AND THE ABSORPTION OF DRUGS.

THE accepted view of the action of saline purgatives on the human alimentary system is that they withdraw water from the blood. Underhill and Errica showed quite recently that saline purgatives produced a distinct concentration of the hæmoglobin of dogs. The action is largely one of osmosis. The hypertonic solution will attract water into the bowel in the endeavour to attain equilibrium. At the same time, the sodium ion, acting as an electrolyte, will stimulate the intestinal wall, augmenting the passage of fluid and inducing peristalsis. The electrolyte will further precipitate colloids and by a process of adsorption will prevent the passage of the salt through the intestinal wall. If large quantities of isotonic salt solution are taken, the action is purely cathartic.

Dr. D. I. Macht and Mr. E. M. Finesilver have recently investigated the effect of saline purgatives on the absorption of other drugs.¹ They were led to this study by noting the fact that no therapeutic effect was obtained from a full dose of acetyl-salicylic acid when the patient had taken a saline purgative immediately beforehand. Their initial experiments were made with phenol-sulphone-phthalein. This drug was administered to a number of dogs and at the end of two and a half hours the animals were catheterized and the amount of the drug was estimated colorimetrically. A few days later the same amount of the drug was again given to the dogs, but with 5% sodium sulphate in solution. The amount of the drug excreted was again determined after two and a half hours. It was found that the quantity excreted on the second occasion was less than half that found in the first or control experiment. Experiments were made with isolated intestinal loops. Two loops of a cat's intestine were exposed by laparotomy and two portions, each twenty-five centimetres long, were tied off without interfering with the blood supply. Into one loop was injected ten cubic centimetres of a 10% solution of sodium sulphate, together with one cubic centimetre of phenol-sulphone-phthalein. Into the other loop were injected one cubic centimetre of the drug and ten cubic centimetres of plain water. One hour later the animal was killed with ether and the loops examined. The control loop was collapsed and contained between one and two cubic centimetres of intestinal contents. In the other loop the contents had increased to thirty cubic centimetres. It was further estimated that in the control loop over 50% of the phenol-sulphone-phthalein had been absorbed, while over 90% of the dye was still present in the other loop. Examination showed that the dye had penetrated the cells of the intestinal mucosa. Further experiments were made by injecting one cubic centimetre of phenol-sulphone-phthalein intramuscularly into rabbits and giving fifty cubic centimetres of water by mouth. The same animals were later injected similarly and given the same amount of water as before, but containing 5% magnesium sulphate. The amount of urine was collected at the

end of the first and at the end of the second hour and the amount of the dye estimated. It was found that the excretion of dye was definitely delayed when the magnesium sulphate had been given. In recording this result Dr. Macht and Mr. Finesilver do not state whether the amount of urine collected in the different types of injection experiment was the same or whether any diminution occurred after the administration of the magnesium sulphate.

Experiments were next made with potassium cyanide on intestinal loops of cats and dogs. It was found that when potassium cyanide and sodium sulphate were introduced into a loop together, the resulting cyanide poisoning was greatly retarded as compared with that of an animal in a loop of whose intestine no sodium sulphate had been placed. Similar results were noted as a consequence of loop experiments with chloretone. It was found that the administration of sodium sulphate delayed and sometimes entirely prevented the effects of doses of apomorphine given to dogs. Experiments made with morphine, cocaine, strychnine, atropine, quinine and digitalis all showed that the simultaneous administration of saline purgatives caused delayed action. Experiments were made with acetyl-salicylic acid on a large number of students. As a general rule the time for appearance of the drug in the urine was one hour. When taken after a saline purgative the drug could not be traced in the urine until three to six hours had elapsed.

In regard to phenol, Dr. Macht showed in 1915 that a saturated solution of sodium sulphate was the best fluid for lavage in poisoning by carbolic acid. The salt not only acted as a purgative, but also tended to prevent further absorption of the poison. Interesting experiments were made with bichloride of mercury. Working with intestinal loops of cats, not only was death much delayed when sodium sulphate was combined with the mercury, but quantitative analysis of the intestinal mucosa showed that less mercury had been absorbed with this combination than in a loop to which no sulphate of soda had been added.

This work is extremely interesting. Its clinical importance is obvious. In explaining the results, however, some difficulty will be experienced. The action of sodium sulphate and similar salts is probably due to osmosis. Something more than this occurs with the drugs under discussion. Were it not so and were osmosis the only process, no delay would be occasioned by the association with a saline purgative. Any element to be absorbed must be in a soluble form. Thus metallic salts, such as those of mercury, enter into combination with the proteins and become soluble. The electrolytic action would have the effect of precipitating the toxic substances present in colloidal solution and consequently of preventing the passage through the intestinal wall. It is held that absorption through the intestine obeys the ordinary laws of dialysis. In addition to this, the vague and ill-defined "vital action" of the cells of the intestinal mucosa must be taken into account. The findings of Dr. Macht and Mr. Finesilver in regard to the experiments following injection are hard to explain. They state that the reason must be in some way connected with the

¹ *The Bulletin of the Johns Hopkins Hospital*, September, 1922.

concentration of the blood and the distribution of fluids in the body. They failed to obtain any similar results with laxatives, such as calomel, cascara or castor oil. The importance of this work from the point of view of toxicology must not be lost sight of, especially in regard to treatment of acute poisoning by phenol or mercuric chloride.

CONGENITAL HYPERKERATOSIS.

Among the rarer pathological conditions affecting the skin is that known as *dyskeratosis diffusa congenita* or congenital hyperkeratosis. The little patient's skin generally assumes a yellow brownish colour, is hard and scaly and resembles parchment in consistency. One observer described the appearance as being that of a horny armour. There are also defects such as ectropion and eclabium and so forth. As a rule the child does not live long, death being due to inanition or sepsis.

Dr. Cornelia de Lange and Dr. J. C. Schippers have recently reported a case of this nature.¹ The child was born at full term of healthy parents. It was able to drink and cry in a normal manner. Shedding of the skin occurred and the child became restless. Attacks of tremor of considerable amplitude supervened and the child died after a few days. No mention is made of the presence or otherwise of fever. The blood picture was interesting. The red cells numbered 8,360,000 in each cubic millimetre, the hæmoglobin value was 123% and the white cells numbered 11,000. The differential count showed the poly-morpho-nuclear neutrophile cells to be 30%, eosinophile cells 0.3%, basophile cells 1%, lymphocytes 48.3%, transitional cells 8%, myelocytes 11.8% and Türk's forms 0.6%. Both megaloblasts and megalocytes were seen. Metachromasia was apparent. No full *post mortem* examination was allowed. Examination of the skin showed the presence of nuclei in the cells of the *stratum corneum*. Normally the cells of this layer have no nuclei. The *stratum granulosum* was not well developed. The *stratum mucosum* or *rete Malpighii* was irregular in structure. In view of this microscopical picture, Drs. de Lange and Schippers state that in this instance at any rate the condition was one of dyskeratosis and not of hyperkeratosis. This disease is sometimes spoken of as congenital ichthyosis and the fœtus as the "harlequin fœtus." They state that the term ichthyosis is too often applied to this disease and quote Unna's explanation in this regard. Unna showed that in hyperkeratosis the *stratum corneum* was not only thickened, but inelastic, thus causing retraction and ectropion. In ichthyosis, on the other hand, the lesion is generally confined to the extensor surfaces. Keratosis is congenital and ichthyosis is not. Ballantyne in 1895 reviewed the literature up to that date in a comprehensive manner. As a result of his investigations he held that the types of infection fell into two groups, the grave and the mild. The instance reported by Drs. de Lange and Schippers was one of the severe type.

Dr. W. E. Foggie has reported an instance of the milder form.² The patient was a female, born in 1907, the tenth child in a family of thirteen, of

healthy parents. At birth the child had a peculiar red, puffy appearance. The same day the skin became hard and shiny and on being touched, was felt to crackle beneath the fingers. In four days the skin began to peel off in many parts. The peeling skin had a collodion-like appearance. Peeling was quite gradual and at the end of three weeks only the thighs and abdomen had completely desquamated. Desquamation continued, but assumed a lighter and more flake-like character. At the time of reporting the patient was fifteen years of age. She was moderately well developed. Scaliness was present in a characteristic fashion all over the body. The skin of the face was stretched tightly, causing ectropion. The scaliness was more noticeable on the extensor surfaces of the limbs and the axillæ. Menstruation began at the age of fourteen and, with the exception of the first period, was normal in type. She is described as bright and cheerful, with moderate mentality, though her education was backward on account of her disability. She sweated freely at times. Her general health since childhood was quite good. The only treatment that gave any relief, was the application of vaseline to the skin. Thyroid extract had been given ineffectually. Dr. Foggie reviews the literature as to the relationship of the so-called severe and mild forms of the disease. He shows that the view generally held is that the two forms are merely different degrees of the same pathological process. No other observers apparently have described the nuclei found in the cells of the *stratum corneum* of the patient reported by Drs. de Lange and Schippers. They, moreover, appear to be alone in failing to find extensive thickening of the *stratum corneum*. The blood picture described by them is interesting. It would be helpful to have blood examinations made from patients affected by the milder form.

The pathogenesis of the disease is still a closed book. Syphilis is apparently not a causative factor. Golay described the condition as being due to a toxæmia. Dr. Foggie discusses the endocrine cause of the disease as laid down by many observers. Although he does not expressly say so, he seems to lean towards accepting this explanation. He mentions an instance reported by Wassmuth in which both parents were cretins, and one described by Winfield and Van Cott in which there was complete absence of the thyroid gland. Other observers have found maldevelopment or insufficiency of the thyroid. Thomson and Wakely have described enlargement of the thymus gland and diminution in size of the thyroid in two patients. They concluded that it was the result of hypothyroidism in the mother, together with an anomaly of the foetal thyroid secretion and explained the difference between this condition and cretinism as being dependent on the existence of two isomers of thyroiodin. It must, however, be remembered that children affected by this disease are generally born of parents who are apparently perfectly healthy. Dr. Foggie states that the question of isomerism may explain why so many patients do not respond to treatment with thyroid extract. He concludes that a correct understanding of this disease can only be obtained by a larger study of records of patients affected at all stages.

¹ American Journal of Diseases of Children, September, 1922.

² Edinburgh Medical Journal, November, 1922.

Abstracts from Current Medical Literature.

THERAPEUTICS.

The Action of Barium.

WILLIAM SALANT AND NATHANIEL KLEITMAN (*The Journal of Pharmacology and Experimental Therapeutics*, November, 1922) have published the results of a series of tests on the action of barium under different conditions. The action of the metal was tested on the isolated frog heart and on the turtle heart and on isolated organs after they had been subjected to substances which produced well marked changes in their activity. The action of barium on the frog's heart was tested after perfusion with Ringier's solution for several minutes. It was found that when a heart was contracting vigorously and with normal frequency no definite changes were noticeable after subjection to different concentrations of barium chloride. There was a moderate increase in frequency and occasionally a diminution in amplitude. The effect was quite different if perfusion with barium chloride was carried out when the heart was slow or its action irregular. The dilution of barium chloride used was one in ten thousand or one in two hundred thousand. In these circumstances frequency was greatly augmented and the contractions became uniform in size if the heart action was irregular before. Amplitude was frequently diminished. Identical results were obtained with a turtle heart, except in one instance, in which no stimulating effect was noted. In another instance increased frequency was followed by retardation. The influence on tonus was not constant. In testing the frog's heart after perfusion with mercuric chloride it was found that perfusion with barium chloride increased the depression caused by the mercury. In several instances paralysis occurred. The action of the turtle's heart after perfusion of mercuric chloride was different. Increase in frequency, with considerable diminution of amplitude, was noted. As a result of these experiments the conclusion was formed that barium probably exerts a moderating effect on the rhythm of the heart. Experiments were therefore made by perfusion of barium in a heart after the production of excitation and delirium by means of aconitine. A pronounced diminution of amplitude and also a considerable slowing of the heart's action occurred. No result occurred after perfusion of a heart in which slowing and partial heart block had been caused by cocaine. Experiments were made on the intestine of the cat and of the rabbit after treatment with aconitine. Barium chloride produced contractions in the case of the cat's intestine, but produced gradual depression, with complete disappearance of rhythmic contractions after a preliminary increase in tonus in the intestine of the rabbit. The authors conclude that the action of barium varies with the condition of the

organs with which it comes in contact. Both stimulation and depression may be caused. They refer to the conclusions of other observers that the effects of barium are due to the difference in permeability of the endo- and exo-cardium. They suggest that a similar mechanism was operative in the experiments made by them. Chemical substances, as well as physical agents, change the permeability of the cell. In the experiments recorded factors may have been present causing changes of permeability of the cell to different ions with resulting differences of action.

Arsenic.

E. W. SCHWARTZ (*The Journal of Pharmacology and Experimental Therapeutics*, October, 1922) discusses so-called habituation to arsenic. He found that the effect of arsenious oxide administered *per os* to rats, rabbits and chickens varied greatly, according to the coarseness or fineness of the particles of the preparation. The finer the particles, the more potent the effect of the preparation. He considers, therefore, that the consumption with impunity of large doses of undissolved arsenious oxide is not proof that habituation exists. In one experiment eight grammes of arsenic (lumps of the natural mineral orpiment) were fed to a kitten without effect. Of this arsenic, 7.5 grammes were recovered from the faeces in the course of three days. The experiments are of interest in relation to the supposed habituation of arsenic eaters and in regard to the minimum lethal dose of solid arsenic. Some standard of fineness of particles of arsenic ingested must be made before definite conclusions can be drawn. The author suggests a microscopic standardization of the fineness of the preparation may be possible.

Benzyl Compounds.

CARL NIELSEN AND JOHN A. HIGGINS (*The Journal of Laboratory and Clinical Medicine*, July, 1922) have endeavoured to discover the relative efficiency of various esters with a benzyl radicle in regard to their influence in the production of relaxation of the muscular coats of the intestine. They found in general that the relaxing power of benzyl esters on the smooth muscle fibres of the intestine of cats and guinea-pigs was dependent on the benzyl content and on the rate of hydrolysis of the compound. The higher the rate of hydrolysis, the greater was the efficiency of the ester. Benzyl fumarate was more efficient than benzyl succinate, which was in turn more efficient than the stearate. Benzyl acetate was more powerful than benzyl cinnamate and this showed a higher efficiency than benzyl benzoate, which is the drug commonly used as a therapeutic agent. Benzyl salicylate and benzyl acetylsalicylate are strong relaxants of the intestine and yet the rate of hydrolysis of their benzyl radicles is slow. The authors attribute this anomaly to a potent action possessed by the intact molecules, since salicylic acid and acetylsalicylic acid have no inherent ability to relax the

musculature of the bowel. These compounds differ from other benzyl esters in that their molecules contain hydroxyl or substituted hydroxyl groups. Various benzyl compounds other than esters, e.g., benzyl phenolate, benzyl ethyl ether and monobenzyl barbituric acid, have a similar action on smooth muscle fibres.

Isopropyl-Ethyl-Barbituric Acid.

D. E. JACKSON (*The Journal of Laboratory and Clinical Medicine*, October, 1922) has studied the action of isopropyl-ethyl-barbituric acid on dogs. It is a white, flocculent powder, slightly soluble in cold water and readily soluble in ammonia water, alkaline carbonates and caustic alkalies. With these it forms the corresponding salts. Medicinal doses acted on the cerebrum, producing sleep in twenty to forty minutes without toxic effects. Larger doses produced coma. Very large doses produced great depression of respiration and finally death from respiratory failure. In man, 0.12 gramme (three and a half grains) always excitement; 0.24 to 0.3 gramme (four to five grains), followed by 0.12 gramme twice daily, will calm maniacal patients and produce refreshing sleep. The sodium salt, which is very soluble in water, may be given hypodermically in doses of 0.12 gramme twice or thrice daily. By analogy the writer considers ten grammes (one hundred and fifty grains) might be a fatal dose for a man weighing 67.5 kilograms (one hundred and fifty pounds).

Calcium Salts.

D. DANIELOPOLU, S. DRAGANESCO AND P. COPACEANU (*La Presse Médicale*, May 13, 1922) contribute an article on the action of calcium salts in heart failure. In seven patients suffering from heart failure calcium chloride was injected intravenously in doses of two and a half to five cubic centimetres of a 10% solution. An improvement occurred in the patient's condition in four instances in which it was injected alone and in one instance in which it was injected after atrophanthin had failed to improve the patient's condition. The conclusion was reached that calcium chloride has a tonic effect on the failing heart, but is not superior to digitalis or atrophanthin in this regard. It also has the disadvantage that it may cause increased coagulability of the blood.

Iodine in Pulmonary Tuberculosis.

M. BONDEAU (*Gazette des Praticiens*, May 1, 1922) summarizes the effects of intensive treatment of pulmonary tuberculosis by iodine. He employs the tincture of iodine of the French Codex and administers the drug by mouth in liquids, generally during meals. Commencing with a small dose, he gradually increases it until the patient receives twenty to forty-five mls a day. M. Bondeau states that iodism is merely a bogey to frighten the timid. He considers that the above treatment is suitable in all cases of tuberculosis and that the iodine acts as a direct remedy.

UROLOGY.

Ascending and Hæmatogenous Pyelitis.

H. F. HELMHOLTZ (*Journal of Urology*, October, 1922) records the results obtained by investigating the pathological changes in experimentally produced ascending and hæmatogenous renal infections. *Bacillus coli communis* cultures were injected intravenously into twenty animals and intravesically into thirteen. The object of the experiments was to determine the presence of anything characteristic in the pathological pictures presented by kidneys infected from the blood and from the bladder. The author states that care should be taken in drawing conclusions from experiments on rabbits, but that it may reasonably be assumed that similar results occur in human infections. Complete cross-sections of the rabbits' kidneys showed that it was possible to differentiate the pictures in ascending and descending infections. Of the thirteen animals injected intravesically twelve showed lesions in the upper portion of the urinary tract. In each of the twelve the parietal pelvic wall was infiltrated, in six there was acute hæmorrhagic infiltration of the peri-pelvic fat, while only in three were there any lesions in the renal substance itself. In two of the latter instances the abscesses followed a thin line consisting of a single group of tubules. In the remaining instance the distribution was so scattered that evidently an actual hæmatogenous infection had resulted from the intracystic injection. In eleven of the twelve instances the involvement was bilateral. Of the twenty animals injected intravenously, all but two showed renal lesions. In contrast to the group injected intravesically, there was no reaction to be observed in the peri-pelvic fat. In four instances showing leucocytic infiltration of the papillæ it was only the adjacent pelvic lining and not that of the parietal pelvic wall which shared in the inflammation. In six instances scattered cortical abscesses were present, in three medullary abscesses were found and in six instances both cortical and medullary abscesses were present.

Carcinoma of the Prostate.

R. H. HURST AND A. THOMPSON (*The Journal of the American Medical Association*, November 11, 1922) rely on radium in the treatment of cancer of the prostate. After a trial of insertion of radium needles into the prostate by the perineal route they have returned to their original technique of opening the bladder above the pubes and embedding the needles under the control of vision. In one variety of the condition a cancer in the posterior lobe is associated with senile hypertrophy of the rest of the gland. Here the adenoma should be enucleated prior to the application of the radium, otherwise the functional results will not be good. Care should be taken to pass two needles through the base of the bladder in such a position that the sub-

trigonal and seminal vesicular areas will be irradiated. From the standpoint of treatment three types of the disease are distinguishable. Firstly, the scirrhous type usually begins in the posterior lobe and involves the vesicles and inter-vesicular area. Metastases are common and develop early. Urinary symptoms are delayed, because the process develops behind the urinary tract. The second type is that of scirrhous of the posterior lobe associated with senile hypertrophy of the rest of the gland. The malignant area may not be discernible and may only be discovered during operation. Urinary symptoms develop early. The third type is less common and in this type the entire gland is the seat of an adeno-carcinoma. Urinary symptoms develop early, but metastases are not as frequent as in the other types.

The Recto-Urethralis Muscle.

M. B. WESSON (*Journal of Urology*, October, 1922) has studied the development and surgical importance of the recto-urethralis muscle and the fascia of Demonvilliers. The recto-urethral muscle arises from the external longitudinal muscle layer of the rectum a little above the anal canal and passes forwards and downwards to blend with the *raphé* of the external vesical sphincter behind and below the membranous urethra. In the perineal approach to the prostate, unless the surgeon severs this muscle near its insertion, he may be led directly to the anterior wall of the rectum. The fetal peritoneum, which at first dips down to the perineum between the prostate and rectum, undergoes later an approximation and fusion of its two layers, which, however, do not form the adult Demonvilliers' fascia, as is generally taught. After the fusion of the two peritoneal layers their whole substance undergoes a prompt reversion to undifferentiated embryonic tissue. In this syncytium condensation of connective tissue occurs anteriorly and posteriorly. The anterior layer is thick, white and shining and covers the posterior surface of the prostate, while the posterior layer covers the anterior surface of the rectum. Together these two layers form part of the recto-vesical fascia. When the recto-urethral muscle is divided near its anterior insertion, the rectal layer of Demonvilliers' fascia is divided with it and the finger sinks into the "separable space" between the two layers of the fascia.

Renal Tuberculosis.

ELMER HESS (*Urological and Ouncaneous Review*, May, 1922) summarizes his views on the treatment of renal tuberculosis. Where constitutional disturbance is slight, bladder symptoms mild, the tubercle bacillus found seldom in the urine and the total renal function fair, surgical treatment should be deferred, a general anti-tuberculosis régime should be employed and the patient's chart, weight and general condition should be watched. Should a hectic type of pyrexia appear with increased vesical disturbance and definite

constitutional symptoms, nephrectomy should forthwith be performed, provided that urological study shows that the condition is unilateral. When the patient gives a history of previous vesical disturbance that has subsided, the cystoscopy may disclose healed bladder lesions and the affected kidney may be excreting no urine at all. In such a case skiagrams may show calcification of the kidney, with the appearance of a shadow resembling a calculus the size and shape of the organ. This is particularly the type of case in which operation should be avoided and the patient should be watched. In the bilateral cases the prognosis is very bad, but the patient may be kept alive and in fair health by an anti-tuberculosis régime and the use of tuberculin. The author feels that tuberculin is only applicable to the latter type of case.

Bladder Diverticula.

A. C. CROSBIE (*The Journal of Urology*, May, 1922) feels convinced that all vesical diverticula are congenital. It has been contended that congenital sacs have all the layers of the true bladder in their walls, while the acquired ones have only a layer of fibrous tissue covered with epithelium. The author examined a number of diverticula histologically, but in the walls of none were the layers of the true bladder wall present. The epithelium was usually of a thin, pavement type. It was lacking where there was much sepsis. The rest of the wall consisted of fibrous tissue with a few scattered, plain muscle fibres; no definite muscle bundles were seen. Obstruction at the vesical outlet may determine infection and cause the onset of symptoms due to the presence of the diverticulum. Cystograms are of importance in the diagnosis. Complete excision is the ideal treatment. Where this is impossible, as much of the fundus of the diverticulum as possible should be removed outside the bladder and the diverticulum should be drained outside the bladder. From inside the bladder the edges of the mouth of the diverticulum should be freshened and sewn together.

Intravenous Injection of "Hexamine."

E. S. COOKE (*New York Medical Journal*, November 1, 1922) records his personal results from the use of "Hexamine" by intravenous injection and comes to the conclusion that this is the most satisfactory method of administration. The first experiments were made with patients suffering from chronic pyogenic processes in the kidney and prostate. In view of the satisfactory nature of the results obtained, the method was applied to patients suffering from acute conditions in all portions of the genito-urinary tract. A dose of 0.25 gramme was found to be as efficacious as a larger dose and far less likely to cause hæmaturia. The injections were given at intervals of one to three days, according to circumstances. In all, seventy-five patients were treated. No unpleasant systemic reactions followed the injections.

British Medical Association News.

SCIENTIFIC.

A MEETING OF THE SOUTH AUSTRALIAN BRANCH OF THE BRITISH MEDICAL ASSOCIATION was held in the Lister Hall, Hindmarsh Square, Adelaide, on November 30, 1922, Dr. T. G. WILSON, the President, in the chair. The meeting was a clinical one, but owing to the excessive heat very few patients turned up.

Acromegaly.

Dr. H. S. NEWLAND, C.B.E., D.S.O., showed a cast of the right hand of a man who had suffered from acromegaly for at least ten years. The soft parts of the hand were very hypertrophied and loose and the hand was of enormous size. He also exhibited a skiagram of the base of the skull of the same patient. It revealed an enormous enlargement of the pituitary fossa, which was due to an adenoma or cyst of the pituitary gland. Operation was not advised, as there was considerable derangement of the heart, the result of the hyper-pituitarism.

A Self-Retaining Abdominal Retractor.

Dr. NEWLAND showed a self-retaining abdominal retractor, a modification of that designed by Mr. Devine, of Melbourne, but less complicated, as the number of parts had been much reduced. It consisted of a ring of twenty-five centimetres (ten inches) in diameter with two grooves on its circumference. Into the upper groove the blades of the retractor were fitted; into the lower groove a piece of rubber sheeting was tied. This rubber sheeting was intended to prevent soiling of the edges of the abdominal incision in operations on the stomach, bowels, uterus *et cetera*. Blades with a larger groove were provided for thick abdominal walls.

Hyper-Nephroma.

Dr. NEWLAND then presented a specimen of a hyper-nephroma of the right kidney. This specimen had been removed from a man aged sixty years. Ten days before he had consulted his medical man, the patient had been suddenly seized with pain in the right groin and loin. On the following day he had passed much blood in urine. Since then blood had been intermittently present. Ureteral casts had been passed. Cystoscopy had shown that the bladder was normal and that a left kidney was present. The right kidney was very definitely enlarged. Removal of the right kidney had been performed. The tumour had been found to involve the right kidney, as was shown in the specimen.

Traumatic Aneurysm.

Dr. NEWLAND also showed a traumatic aneurysm of the radial artery. The specimen was from a man aged seventeen years. A piece of metal had flown off a chisel and had wounded him in the wrist on the outer side of the front of the right forearm. The wound had bled profusely and a vessel had been tied by a doctor. Three weeks later he had noticed that a pulsating swelling had formed at the site of the wound. He had said that the swelling had slowly increased. Ligature of the radial artery above and below and excision of the entire sac had been carried out.

Fracture of the Spinous Process.

Dr. NEWLAND next showed a man, aged nineteen years, who had complained of pain in the interval between the spine of the left scapula and the spinal column, resulting from a jump four days before admission. He had been jumping from a fence and whilst in the air had experienced a sharp pain in the region of the first thoracic spine. Ever since he had had pain in the left arm on movement. The pain had been referred to the area over the rhomboids on the left side. On examination crepitus had been felt on palpation of the spinous process of the first thoracic vertebra when the head was extended. A skiagram had revealed a fracture of the spinous process of the first thoracic vertebra.

Dr. Newland said that fracture of a spinous process by muscular action was a very rare condition and must have been done by the man forcibly and suddenly shrugging his shoulders in the act of trying to jump higher or further.

Pyloric Obstruction Caused by Hydrochloric Acid.

Dr. JOHN CORBIN read the notes of a man, J.K., aged twenty-eight years, a bricklayer. He had been admitted to the Adelaide Hospital on November 5, 1921. One hour previous to admission he had swallowed about a dessert-spoonful of spirits of salts (commercial hydrochloric acid). He had immediately felt a burning in the throat and soreness in the epigastrium which had become worse. Fifteen minutes later he had begun to vomit a black, frothy fluid.

On admission he had been given an alkaline fluid to drink in the form of bicarbonate of soda and had been fed on a milk diet. He had improved immediately and had been discharged fourteen days after admission, feeling well and taking light diet without discomfort.

He had been re-admitted on December 2, 1921, complaining of pain coming on after food, followed by relief of pain when vomiting had occurred. He had been unable to retain any food for longer than two hours. He had been losing weight rapidly and getting weaker. A bismuth meal on December 13 had revealed complete pyloric obstruction, with vomiting of the meal one hour after the X-ray examination. His weight had then diminished to forty kilograms (6 stone 4 lb.). Before illness he had weighed sixty-eight and a half kilograms (10 stone 11 lb.).

On December 14, 1921, a median incision had been made above the umbilicus and the stomach had been examined. A circular ulcer had been found at the gastric side of the pyloric opening. Handling of this had produced a linear tear which had been over-sewn. As difficulty had been experienced in delivering the stomach an anterior gastro-jejunostomy had been performed. He had made an uneventful recovery and had been discharged on January 13, 1922. He had felt well and had been taking full diet.

On November 29, 1922, he had been at work for several months; his weight at the time of demonstration was fifty-six kilograms (8 stone 12 lb.).

Polycythæmia Vera.

Dr. C. T. CH. DE CRESPIGNY showed a woman, aged sixty-two years. He had first seen her on April 21, 1922. She had complained of a lump in the left side of the upper quadrant of the abdomen for three years. The lump had grown larger during the last few months. This had given rise to "strained feelings." She had also noticed that her face and eyes had become very red and her lips and tongue trembled. Her senses of taste and smell had disappeared and she had lost her appetite. She had headaches and a feeling of fullness in the head. Her weight had diminished. The amount of urine had increased and she had had to rise once or twice a night to micturate.

She had suffered with frequent attacks of bronchitis. She had married late in life and had never conceived. Her menses had ceased at the age of fifty-two years. Her family history had thrown no light on her condition.

On admission she had been a spare woman with a reddish skin which was shrivelled and harsh, especially in the forearms. The lips and tongue had been purplish. Her conjunctivæ had been congested and red. The pulse had been regular and its rate 84. The arteries had been palpably thickened and leathery. Her diastolic blood pressure had been 120 millimetres and systolic 180 millimetres of mercury. The apex beat had been in the fifth space, 3.75 centimetres outside the nipple line. The impulse had been firm. There had been a gallop rhythm at the apex. Nothing abnormal had been detected in the lungs. The spleen had been visibly and palpably enlarged to the level 12.5 millimetres below the umbilicus and had reached the mid-line in the epigastric. The liver had not been felt. A neurological examination had failed to disclose any pathological changes. The urine had been pale, limpid and acid; its specific gravity had been 1.012. It had contained a small amount of albumin, but no sugar.

Examination of the blood at various dates had yielded the following results:

April 26, 1922:

Red blood corpuscles	11,560,000 per c.mm.
Leucocytes	13,000 per c.mm.
Hæmoglobin	150%
Colour index	0.6

June 19, 1922:

Red blood corpuscles	10,240,000 per c.mm.
Leucocytes	10,500 per c.mm.
Hæmoglobin	132%
Colour index	0.5

August 8, 1922:

Red blood corpuscles	10,160,000 per c.mm.
Hæmoglobin	130%

November 11, 1922:

Red blood corpuscles	10,160,000 per c.mm.
Leucocytes	11,300 per c.mm.
Hæmoglobin	177%
Colour index	0.7

No abnormal red corpuscles had been detected. The coagulation time had been found to be four minutes (complete). A trace of lysis had occurred in 0.48% of sodium chloride solution and complete lysis had taken place in 0.34% of sodium chloride solution. Very few cells had been left in 0.36%; extensive lysis had occurred in 0.42%, but very little in 0.44%. Dr. de Crespigny stated that this showed that the cells were slightly less resistant than normal. The abnormality appeared to have been the occurrence of lysis with saline solution of a concentration of 0.42% or less. Normal blood cells underwent a more gradual increase in lysis when suspended in decreasing concentration of saline solution. The blood had been very viscous, like a thin syrup.

The patient had been treated with weekly applications of X-rays to the bones by Dr. Stanley Verco. By June 30 she had said that after six applications she had felt much better. The spleen had become rather smaller. The red cells had diminished by one million per cubic millimetre. Her taste and smell had returned and the headaches had gone. On September 4, 1922, her systolic blood pressure had been 130 millimetres of mercury, but she still had to rise twice each night to micturate. She had had an attack of bronchitis which had necessitated rest in bed for a week.

Dr. de Crespigny said that this was a case typical of Vaquez or Osler's disease and showed all the characteristic features, including splenomegaly, an enormous increase in the number of red blood cells, to 159% more than the normal number (four and a half millions). There was no emphysema or cardiac condition to account for the blood state, hence it might be regarded as a primary disorder of the erythroblastic elements of the bone marrow, to which the splenic condition was secondary. The arteriosclerosis and interstitial nephritis occurred in a large proportion of patients who were usually middle-aged or old.

Dr. Edward Brown had examined the fundi and had reported intense congestion of the vessels and redness of the disc, but no optic neuritis.

X-ray treatment was the only one which, according to authority, had any influence on the condition. Venesection might give temporary relief to the headache, vertigo and "congestive" symptoms. Parkes Weber had recently published a monograph on the disease, which had first been described by Vaquez and shortly afterwards by Osler.

It was an example of "tone plethora," but, contrary to what might be expected, the patient seemed lean and wasted rather than plethoric. He, Dr. de Crespigny, could find no literature on the curious, dried-up condition of the skin.

Unhealed Mastoid Incision.

Dr. H. M. JAY showed a boy, aged seventeen years. He had first been seen on April 3, 1922, with a discharge from his left ear following a cold. He had been ill for ten days and had had much pain and fever reaching 41.1° C. (106° F.). He had been vomiting after food for two days. On examination he had looked very ill and yellow. There had been a scanty, thick discharge in the left canal. The drum had been red, bulging with a small perforation in

the posterior superior quadrant. There had been slight tenderness over the mastoid. An operation had been performed on the evening of April 3, 1922. The mastoid cavity had been found to be entirely necrotic, the lateral sinus infected and pus in the region of the knee and bulb, but there had been free bleeding from the distal end on incising the sinus. The internal jugular vein had been tied in the neck and divided. It had been found impossible to clear out the clot entirely from the proximal end. The wound in the neck had suppurated, but had recovered with fomentations. The patient had got quite well.

On August 10, 1922, his tonsils and adenoids had been removed and at the operation the wound behind the ear had been found to be extensively broken down and the base covered by an adherent, brown slough. Under treatment the area had steadily increased and the posterior surface of the auricle had become involved. No sinus nor dead bone had been discovered and the process had appeared to be merely a superficial death of tissue. Red lotion and "Eusol" fomentations had been tried without success, also glycerine dressings, which had resulted in some slight betterment. The condition at present was *in statu quo*.

Dr. H. S. NEWLAND suggested excision of the unhealed area and a plastic operation, combined with a whole thickness skin graft.

Dr. H. C. NORT thought that zinc ionization should be tried.

Tuberculous Endometritis and Salpingitis.

Dr. T. G. WILSON presented a patient, a nurse, aged thirty-four years, who had complained of excessive menstrual loss which had practically amounted to floodings during the two previous months. For six weeks she had a watery discharge in the interval; the discharge was not offensive. Vento-fixation had been performed four years previously for prolapse with very little benefit. Examination had revealed a large, somewhat irregular uterus. A provisional diagnosis of uterine fibroids had been made. On August 9, 1922, supra-vaginal hysterectomy had been performed. A double tuberculous salpingitis had been recognized, while the mass in the body of the uterus had the appearance of a degenerating fibroid. Dr. Wilson stated in reference to the pathological report that this was the only example of a massive tuberculous deposit he had seen.

PROFESSOR J. B. CLELAND AND DR. L. B. BULL had submitted a pathological report on the specimen. The uterine mucosa formed a spongy layer about eighteen millimetres in thickness. There was some necrotic material of the free surface; the deep portions were firm and spongy, the sponginess being due to small cystic dilatations. Some minute caseous-looking foci were present and on examination were found to harbour tubercle bacilli. There was some dilatation of the right Fallopian tube, which contained a caseous-looking patch and some pallid granulation tissue. Sections of the uterus revealed hyperplasia of the endometrium; the tubular glands were dilated and cystic, while tubercles were seen in the stroma, with endothelial proliferation and giant-cell formation.

Professor Cleland and Dr. Bull discussed the changes found in the specimens. They pointed out that the tubercular reaction of the uterine mucosa was of the proliferative type. New tubules and stroma had formed as a result of stimulation of the endometrium and these had tended to penetrate into the muscle layer in the mucosa itself. The tubercular reaction had led to the formation of cystic dilatations. They had arrived at the conclusion that the tuberculous process in the Fallopian tubes was probably primary, that it had been present for some time, that the uterine mucosa had become seeded with tubercle bacilli and that the bacilli had produced a rapid and extensive reaction.

Cerebral Hæmorrhage.

Dr. T. G. WILSON read the notes of a case of a young woman, aged twenty years, who had been admitted to the Adelaide Hospital on September 15, 1922, in an unconscious condition. The patient was at that time in the fifth month of pregnancy. She had had a succession of fits since the previous evening. A headache had developed suddenly and the convulsions had followed, during the course of which she had bitten her tongue. Twelve months before she had

had a full-time, still-born child. At that time there had been oedema of the face and of other parts of the body.

On examination it was found that the patient was quite unconscious and that there was transient conjugate deviation of the head and eyes to the left. There were constant, irregular, spasmodic movements of the body and limbs. At first the pupils reacted to light; later they dilated and contracted alternately; finally both were dilated. The heart beat was displaced outwards and downwards. The sounds were forcible, but no bruits were heard. The pregnant uterus reached nearly as far as the umbilicus. Fœtal heart sounds were heard. The patient vomited freely. During the course of the twenty-seven hours before death about six hundred cubic centimetres of urine were passed. The urine contained much albumin, with granular and epithelial casts and coliform bacilli.

The condition was regarded as eclampsia and the usual eliminative treatment was employed. As there was no improvement within a few hours, it was decided to perform vaginal Cæsarean section and to empty the uterus. Before this could be done the patient's respiration ceased. She was kept alive for several hours by the administration of oxygen and by artificial respiration.

The pathological examination of the kidneys was undertaken by Professor Cleland. There was intense congestion of the intertubular vessels and capillaries. There were a few small areas of increase of cellular interstitial tissue. Some of the smaller arteries were narrowed by thickening of the endothelial coat. Several small infective foci were seen in the cortex; one of them contained masses of bacteria with the appearance of cocci. There was infiltration with poly-morpho-nuclear leucocytes. Professor Cleland suggested that the small pyæmic foci present in the kidneys were probably due to an ascending infection. He regarded the interstitial changes as too slight to have given rise to the cardiac hypertrophy and to the cerebral hæmorrhage. While the cerebral hæmorrhage might have been caused by an infective embolus, it appeared to him more probable that it was due to hyperplæsis.

Uterine Fibroids.

Dr. T. G. WILSON presented a patient, a primipara, whom he had seen in consultation with Dr. J. B. Gunson. Her last period had occurred ten months previously. She had been in labour for four days, but no progress had been made. On examination it was discovered that the pelvis was small and that the fœtal head was large and hard. As natural delivery with a living child appeared to be excluded, Dr. Wilson determined to perform Cæsarean section. This was carried out eight hours later and a female child was delivered without difficulty. It was found that the uterus was the seat of numerous fibroids; the largest, attached to the fundus, had been mistaken for an enlarged left lobe of the liver. As it was obviously undergoing some form of degeneration, it was decided to remove the uterus. Only five minutes had elapsed between the making of the abdominal incision and the tying of the cord, while the uterus was removed within ten minutes. Both mother and child were well.

Double Malignant Ovarian Tumours.

Dr. WILSON presented a specimen of two ovarian tumours which had been removed from a woman, aged thirty-eight years. The patient had been admitted to the Adelaide Hospital, complaining of complete prolapse of recent origin. She had a well developed cystocele and rectocele. A large mass was felt in the abdominal cavity, which also contained a considerable amount of free fluid. There was a hard mass in the right breast and one definitely enlarged gland in the right axilla. The abdomen had been opened and two ovarian tumours had been removed. On examination it had been found that they were carcinomata. Professor Cleland had suggested that they were due to implantation of cells from the breast cancer. There was a deposit on the lower and left edge of the liver. It was uncertain whether the breast or the ovarian tumour was primary.

Congenital Aortic Disease.

Dr. C. T. CH. DE CRESPIGNY read the notes of the case of a saddler, aged thirty-one years, who had been admitted to the Adelaide Hospital on October 26, 1922, with a history

of breathlessness on exertion of two or three months' duration. During the six weeks preceding the admission the breathlessness had become accentuated. There had also been attacks of pain in the upper part of the abdomen and occasionally below the umbilicus. The pain had not been associated with the taking of food. There had been no swelling of the legs, nor diminution of the amount of urine passed. There was no history of syphilis, rheumatic fever or tonsillitis. The patient had not been a drinker and was a light smoker.

The patient was pallid and thin and his lips, ears and finger tips were livid. There was exaggerated pulsation of the veins in the neck. The pulse was small and regular and its rate 124. The radial artery was not palpably thickened. Exertion caused an alteration of the pulse. The apex beat of the heart was diffuse. It was situated in the seventh and eighth interspaces in the mid-axillary line, 12.5 centimetres from the middle line. A thrill was present at the apex. The cardiac dullness at the level of the fourth costal cartilage was 3.7 centimetres to the right of the middle line. The beats were regular. Pre-systolic and systolic bruits were heard at the apex; a loud systolic bruit was heard in the pulmonary area; over the aortic orifice a to-and-fro murmur was heard, which was conducted upwards and downwards along the sternum. Moist sounds were heard at the bases of both lungs. The edge of the liver was one finger's breadth below the costal margin. There was pulsation of the liver. The urine was acid and contained a small amount of albumin, but no blood nor sugar. Its specific gravity was 1.030. He was passing about two and a half litres (thirty ounces) of urine a day. The temperature remained normal throughout. On admission he was given tincture of digitalis in doses of 1.2 mils (twenty minims) every eight hours. Four days later the patient had an attack of breathlessness and died.

At the autopsy, which was performed on October 30, 1922, it was found on opening the chest cavity that the enlarged heart had displaced the left lung upwards, so that it did not extend lower than the fourth rib in its lateral portion. The lower lobe of this lung was compressed. The right plural cavity contained about 0.5 litre of straw-coloured fluid. The pericardial cavity contained about thirty cubic centimetres of fluid. The heart weighed 850 grammes. The right auricle and ventricle were much dilated and somewhat hypertrophied. The tricuspid orifice was of sufficient size to admit of seven fingers. There was a patch on the anterior aspect of the left ventricle, which was greatly hypertrophied and dilated. It contained small *ante mortem* clots in the wall between the muscle bundles. The left auricle was dilated, especially in the neighbourhood of its appendix. The mitral orifice was capable of admitting five fingers and there was some thickening of the edges of the mitral valve. The aortic valve comprised two cusps only, an anterior and a posterior. Each cusp was about five centimetres long. They were soft in texture. The anterior cusp was lax and retroverted, while the posterior cusp had a thickened edge, but was not atheromatous. The base of the aorta was a little dilated and contained yellowish, degenerated, fatty specks. The descending portion of the thoracic aorta contained numerous raised, yellowish, fatty, degenerated areas, running more or less longitudinally along the vessel. There were signs of chronic venous congestion of the other organs.

The presence of only two cusps to the aortic valve was a congenital anomaly. There was no evidence that the edges of two cusps had become fused as a result of disease. Owing to the rigid, cylindrical shape of the aorta, a certain amount of regurgitation would necessarily take place. This would lead to some dilatation and subsequently to hypertrophy of the left ventricle. Eventually, when the patient reached adult life and exposed himself to increasing degrees of strain, the defect would become exaggerated, hypertrophy would increase, dilatation would supervene and after the secondary consequences had appeared, a fatal issue would occur.

Auricular Fibrillation.

Dr. C. T. CH. DE CRESPIGNY read the notes of a case of auricular fibrillation with death after administration of quinidine sulphate (see page 150).

Multiple Tuberculomata of the Liver.

DR. C. T. CH. DE CRESPIGNY AND PROFESSOR J. B. CLELAND read notes of a case of primary multiple tuberculomata of the liver with a degenerated hydatid cyst (see page 151).

Peri-Arteritis Nodosa.

PROFESSOR J. B. CLELAND read an article entitled "Peri-Arteritis Nodosa" and exhibited some specimens. This article will be published in a subsequent issue.

Headache of Intranasal Origin.

DR. W. SANGSTER read notes on three cases of headache of intranasal origin (see page 152).

Abdominal Cancer.

DR. J. BERNARD DAWSON read notes on two unusual cases of abdominal cancer (see page 153).

An Undescribed Form of Ligneous Oedema of the Neck.

A report by DR. ROBERT PULLEINE on an apparently undescribed form of ligneous oedema of the neck was read by the Honorary Secretary in the absence of the author (see page 153).

MEDICO-POLITICAL.

A MEETING OF THE NEW SOUTH WALES BRANCH OF THE BRITISH MEDICAL ASSOCIATION was held at the B.M.A. Building, 30-34, Elizabeth Street, Sydney, on January 30, 1923, DR. T. W. LIPSCOMB, the President, in the chair.

Extension of the Printing Arrangements of the Australasian Medical Publishing Company, Limited.

THE PRESIDENT announced that the meeting had been convened to consider a report issued by the Australasian Medical Publishing Company, Limited, on proposals to extend the printing arrangements of the Company.

THE EDITOR made a statement in regard to the proposal and explained the details of the report.

After various questions had been asked and answered, DR. GEORGE ARMSTRONG expressed the opinion that the Company should acquire its own premises for the purpose. It appeared to him on the information given by the Editor that, provided care were exercised in the purchase of land or of a building, the proposition was a sound one.

The following resolution was adopted:

That this meeting approves generally of the proposal and suggests (i.) that the rate of interest be 10%, (ii.) that the amount be increased to £15,000, to be issued as required, and (iii.) that the Company either purchase a building or buy land and erect its own building.

NOMINATIONS AND ELECTIONS.

THE undermentioned has been nominated for election as a member of the South Australian Branch of the British Medical Association:

KIRSNER, ERNEST, M.B., B.S., 1922 (Univ. Melbourne), Hawker.

THE undermentioned have been elected as members of the Victorian Branch of the British Medical Association:

GRANT, FRANK JOHN, M.B., B.S., 1922 (Univ. Melbourne), High Street, Windsor.

SPRINGTHORPE, ANNIS GUY HALE, M.B., B.S., 1921 (Univ. Melbourne), Melbourne.

THE undermentioned have been elected as members of the Western Australian Branch of the British Medical Association:

MACKAY, WALLACE ARTHUR ARUNDEL, M.B., Ch.M., 1922 (Univ. Sydney), Perth Hospital.

POTTS, KEITH FAULKNER, M.B., Ch.M., 1922 (Univ. Sydney), Perth Hospital.

Hospitals.**THE ALFRED HOSPITAL, MELBOURNE.**

THE BOARD OF MANAGEMENT OF THE ALFRED HOSPITAL, MELBOURNE, has recently issued its report for the year ended June 30, 1922. From the information supplied in the report it would seem that the Board is justified in their description of the year as a progressive one. A great deal of headway has apparently been made in the building extension scheme which was recently inaugurated. The Hospital Building Account discloses the satisfactory information that the sum of £23,167 was spent during the year on new buildings and upwards of £5,000 on fittings and furniture, leaving a balance credit of nearly £15,000.

During the year 2,531 patients were admitted. There were 142 patients remaining in hospital on June 30, 1921. The number of patients discharged during the year was 2,286. The number of deaths was 248 and on June 30, 1922, the number of patients remaining in hospital was 139. According to the usual formula, the mortality was 4.8%. The total number of out-patients treated during the year was 21,845, an increase on the previous year of 3,103. The daily average of occupied beds for the year was 139.3 and the cost per bed was £209 as against £187 2s. 6d. for the preceding twelve months. Although the cost of each bed was greater, the actual expenditure of the hospital was £700 less than in the preceding twelve months. In explaining this fact it is shown that the number of occupied beds was less than in the preceding year, but that 200 more patients were treated in the wards. The cost of each in-patient was reduced from £12 7s. 2d. in the year 1920-1921 to £10 7s. 11d.. The average stay of in-patients was 19.6 days and this was a reduction of nearly five days from the time of the previous year. This reduction has apparently been brought about by keen supervision.

The financial statement for the year shows that contributions amounted to £33,817. Of this amount the Government gave £7,000 as a grant. It is interesting, in view of the discussion that recently took place in the Victorian Parliament in connexion with the *Hospitals and Charities Bill*, to note that private contributions amounted to £3,606. Bequests amounted to £3,645, while "Hospital Saturday" and "Sunday" brought £3,515 into the funds. Visitors contributed £1,630. Contributions from in-patients amounted to £2,620, an average contribution of slightly over one pound per patient admitted during the year. Contributions from out-patients amounted to £4,056, an average contribution per patient on the register of 3s. 8½d..

The latter end of the report, dealing with the list of operations and the pathological and X-ray departments, is useless from the point of view of medical science. No attempt whatever is made to analyse results or to explain methods and no estimate of the standard of work done at the hospital can be formed. The table of principal operations performed was evidently drawn up by a layman. Under the heading of operations the operation and the condition for which the operation was performed, are constantly confused. Thus it is somewhat startling to read that of eight (a typographical error for eighteen) patients who were submitted to the operation of compound fracture, eight recovered and ten were relieved. Surely a new form of treatment! It is likewise rather a bold statement that six out of seven patients were cured after an operation named "breast cancer." Evidently the radical operation for removal was carried out, but this is nowhere so stated. On what is the standard of cure based? That a patient leaves hospital with a wound healed after an operation for malignant disease is no standard of cure. The primary focus is gone, but nothing more can be said with certainty. The large number of 565 patients was cured as a result of tonsillectomy. No entry is made in the column of those relieved in this case. The enlarged tonsil has been removed for the presumption is that complete tonsillectomy was performed in every instance. The bald statement that every patient was cured cannot be accepted as an indication of the cure of the pathological condition for which tonsillectomy was performed. As a result of an operation entitled "gall bladder," thirty-one patients

out of thirty-five were cured. There is nothing to indicate whether cholecystotomy or cholecystectomy was performed. Seven deaths occurred among thirty-four patients submitted to prostatectomy. This rate is high. A statement in regard to the reason for this high mortality and the extent of the relief in those discharged would have been instructive. The list could be extended.

In the report of the X-ray department the information is extremely scanty. The numbers of patients and of treatments by X-rays are given. No information as to results and no analysis of the work is attempted. In the present state of knowledge this would be valuable.

A hospital report should have two aspects. Under the present system of voluntary contributions it is but natural that much should be made of lists of contributions and of information that will help to show subscribers that progress is being made. Lists of operations and numbers of examinations are useful aids in hospital propaganda. Active interest must be sustained and efforts must be made to arouse the apathetic from their lethargy, but there is another side. The hospital exists primarily for the treatment of disease. Rapid advance is being made in medical science and much of this advance is initiated in the public hospitals. No record of this forward movement is made. The report should be a contribution to medical knowledge as well as an aid to propaganda.

Special Correspondence.

LONDON LETTER.

BY OUR SPECIAL CORRESPONDENT.

The Council of the Royal College of Surgeons.

THE ROYAL COLLEGE OF SURGEONS OF ENGLAND is composed of about 16,000 members, together with about 1,700 fellows. The governing body of the College—the Council—is composed of twenty-four fellows; and it is a grievance with certain of the members that the Council is elected by the fellows without any direct representation of the members. For some years the Society of Members of the Royal College of Surgeons has maintained that the constitution of the Council is not in keeping with modern ideas of true representation; it argues, also, that as the majority of members are in general practice and the majority of the fellows are in consulting practice, the present state of affairs is that general practitioners are totally excluded, in favour of numerically fewer consultants, from the Council of the institution which has granted them qualification and of which they are members.

I was present at the recent meeting of fellows and members—the annual and only occasion on which the members have the opportunity of expressing vocally their views to the Council. Fewer than fifty persons attended. The first resolution, moved by the President of the Society of Members and passed by majority (the members of the Council not voting), affirmed the desirability of direct representation of members and requested the nomination on the Council of at least two members in general practice. It was the purpose of the second resolution to secure from the Council the explanation which I refer to below.

The speech of the President of the Society of Members was courteous and his demeanour irreproachable, but the same cannot be said of all his supporters, some of whose remarks, it must be admitted, were illogical, undignified and verging on the disrespectful. From a few members who had come to the meeting with open minds, these speeches evoked counter orations characterized more by sincerity of purpose than by relevance to the discussion and—as one regarded the President and Council facing the meeting of members—the spectacle was irresistibly and pathetically suggestive of a circle of bored but temporarily impotent schoolmasters whose status and methods were being questioned by the lower school debating society.

The reply of the Council is worthy of careful study and has been given in *The British Medical Journal*. The first two paragraphs appear to evade the issue; the first one describe the present electorate (the fellows) as a repre-

sentative one, not wholly composed of consultants, and the second say in effect that many fellows do not desire representation of the members on the Council. These paragraphs have no bearing on the justice or injustice of present conditions. In these democratic days it seems difficult to comprehend the desire to continue to deny to 16,000 members any voice in the councils of the College or any share in the election of the governing body; and to ask for such a modification of the charter as will permit the election of two members of the College among twenty-four of the Council appears to the unprejudiced person modest and reasonable. The Royal College of Physicians, one may recall, has recently by its revocation of the statutes forbidding a practitioner holding the diploma of the Membership of the Royal College of Physicians to engage in partnership or dispense medicine, shown that consulting physicians at any rate are not unaware that *tempora mutantur*.

The third paragraph of the Council's reply touches the weak spot in the agitators' case: "There is no evidence before the Council of a wide-spread demand by the members themselves for an amended charter and very few members come to the annual meeting to support the motions of the Society of Members."

At this year's meeting I noticed that, although the President gave several opportunities for a statement of the number of members in the Society, he was met by silence. It seems to be up to the Society to increase its membership and thus strengthen its authority.

Hospital Cooperation.

The Middlesex and Saint Luke's Hospitals—the former a large general hospital and the latter a registered hospital for mental diseases—have adopted a scheme of co-operation in both in-patient and out-patient treatment of mental disorder and its incipient states. Two new wards, for male and female patients, will be established in the Middlesex, where treatment will be given by the staff of Saint Luke's. A special out-patient clinic, to be established for "border-line cases," will practically constitute a psychiatry section of the Middlesex Neurological Department. It is suggested that patients suffering from early stages of mental disease are more likely promptly to seek, on their own initiative or that of their connexions, advice from a general hospital than from one for mental disease; by admission to the former the "stigma" of certification may also be avoided. Another object of the scheme is to secure economy in management, material and staff.

Correspondence.

SCHISTOSOMIASIS IN AUSTRALIA.

SIR: In a recent paper upon the possibility of schistosomiasis becoming established in Australia, stress was laid on the adaptability of the human schistosomes to different molluscan intermediary hosts, such adaptability being presumed to be necessary if the parasites were to gain a footing in Australia. It was shown that *Schistosoma haematobium*, normally developing in *Bulinus*, had been found in *Physopsis*, *Limnaea* and even in *Planorbis*, the normal host of *Schistosoma mansoni* and that *Schistosoma mansoni* could develop in *Physopsis* as well as in its usual host, *Planorbis*.

In the Annual Report of the South African Institute for Medical Research for the year ending December 31, 1921, which has just reached me through the courtesy of the Director, Annie Porter states that she has found cercariae of *Schistosoma mansoni* occurring in nature in *Isidora tropica*. *Isidora* being a synonym of *Physa*, which is itself synonymous with *Bulinus*, we now find that the two common schistosomes, besides accommodating themselves to a variety of molluscan hosts, can and do under certain circumstances adapt themselves each to the generic host of the other.

This enormously extends the possibilities of these parasites adapting themselves to the molluscs of new countries and lays Australia, with its many species of *Bulinus*, *Isi-*

dora and *Isidorella*, open to invasion by both species, though for reasons shown I doubt if either will obtain a footing there, at any rate for many years to come.

Yours, etc.,

J. MILTON.

Ootacamund, South India,
December 4, 1922.

NAPOLÉON I.

SIR: Dr. MacLaurin's article is most interesting and instructive. He states that "the autopsy showed beyond cavil that the cause of death was cancer of the stomach" and we know that Napoleon's family was rather prone to this disease. There was "hardly any secondary cancerous development, except for a few enlarged glands." May these few glands not have been inflammatory or tubercular? "The intestines were covered with small, bright red patches"; but may these have not been due to an early peritonitis? The ulcer had perforated and Dr. Henry "was able to thrust his finger through" the perforation, the "orifice of which had been sealed," but might these adhesions have not been slight and recent. A perforation through which the finger might be thrust would, without doubt, be quite a sufficient cause of death.

We know that in modern surgery, cancer has been diagnosed at the operation and a gastro-enterostomy has been performed with the idea that in a few weeks' time a further operation will be carried out for the removal of the growth, but at the second operation there is no sign of the cancerous growth and the duodenal ulcer has healed in the time intervening between the two operations. Why should not the pain in the pylorus have been due to ulcer? "The body was covered thickly with a superficial layer of fat and the heart and omenta were also adipose," but would this be expected in cancer which had existed for at least "eighteen months"? If the cancer had been "acute," would there not have been some sign of secondary cancerous foci after the lapse of eighteen months? Would not the sudden serious illness point rather to perforation of a non-cancerous pyloric or duodenal ulcer? A healed perforation of the size mentioned above might hardly be expected in a body with worn-out endocrine glands, for after Elba it was noted by many observers that Napoleon appeared to be senile and had become corpulent. May not the "frequency of micturition" have been due to diabetes, owing to partial destruction of the pancreas? Although hyperpituitarism due to a full development of the *pars intermedia* and the posterior part of the pituitary body might have been expected in Napoleon's younger days, when one considers his wonderful mental and physical energy, it appears that there might have been an ultimate "hypopituitarism" and the man who had had seven mistresses *et cetera* had been "impotent for some time before he died." These conditions point to an early senility, which may have accounted for his mistakes from, say, 1814 onwards.

Yours, etc.,

R. A. PARKER.

"Cottesbrooke," 140, Sackville Street,
East Kew, Victoria,
January 20, 1923.

DOCTOR'S RESIDENCE.

SIR: I anticipate building in the near future and would appreciate greatly if any of your readers who has made a study of this particular subject could furnish me with a rough ground plan of a compact residence, either single or double story, with surgery and waiting-room attached. The area of my land—which is situated on a high bank—is 50 feet by 150.

Yours, etc.,

"ENQUIRER."

February 3, 1923.

Public Health.

MEDICAL EXAMINATION OF SCHOOL CHILDREN IN QUEENSLAND.

ON many occasions we have called attention to the apparent failure on the part of the Ministry of Public Instruction of Queensland to assess the value of medical inspection of school children at its proper level. From the annual report of the Secretary of the Department for the year 1921 it appears that there was an enrolment in the primary schools and high schools of 147,434 children, an average daily attendance of 99,152 children and an expenditure of £999,868 on salaries and allowances, in addition to £67,490 on buildings and furnishing and repairs. In the same year 26,137 children were inspected presumably by the part-time medical officers and 17,150 had their teeth examined by the dental inspectors. The total amount spent on medical and dental inspection in 1920 was £8,370.

There is no whole-time medical officer in the Department. The only whole-time officer in the medical branch in a responsible position is the district school nurse. In the half page devoted to the question of medical inspection there is a reference to part-time medical officers in twelve towns. Strange to relate, the City of Brisbane is not mentioned. It appears that of the children examined, 3,661 were found to be suffering from physical defects. The classification of these defects is not attempted. From another paragraph we gather that in schools remote from a district hospital the head teachers carry out to the best of their ability the prescribed measures for the diagnosis and treatment of ophthalmic diseases and, further, that itinerant teachers are entrusted with ophthalmic outfits for use among isolated families. No other information is given.

In 1919 we published a paper by Dr. J. H. Waite and Miss I. L. Nielsen, in the course of which they demonstrated that mental deficiency was relatively common among children affected with hookworm disease and that with the cure of the hookworm disease the mental retardation began to disappear. The Department of Public Instruction in Queensland pays over £1,000,000 in the year to educate the children of the State and is satisfied to spend about £5,000 on medical inspection, notwithstanding the fact that it has been shown that many children cannot benefit from the instruction they receive on account of the condition of their bodies. No department of school hygiene can be satisfactory unless there is at least one whole-time medical officer. During the war years and the early years following the war there may have been some excuse for the absence of a chief medical officer. At the present time there is no excuse for the continuation of a medical branch without a head. It is quite obvious that part-time medical service serves a useful purpose when it is adopted to supplement the whole-time service and when it is embodied in a properly organized scheme. The question of the health of the school children must be considered seriously within the immediate future. The Department cannot plead lack of money while it is spending so large a sum as £1,000,000. Few problems are as urgent as this one and yet the authorities do not appear to recognize it. Within the next twelve months the medical branch should be completely reorganized and the evidence of indifference to the maintenance of the health of the Queensland children should be eliminated from the next annual report.

Congress Notes.

CONGRESS OF THE FAR EASTERN ASSOCIATION OF TROPICAL MEDICINE.

THE CONGRESS OF THE FAR EASTERN ASSOCIATION OF TROPICAL MEDICINE will be held in Malaya from September 3 to September 17, 1923. It is requested that those who wish to submit papers, will communicate as soon as possible with the Honorary Secretary, Dr. SCHARFF, Singapore.

Naval and Military.

APPOINTMENTS.

The following appointments, changes *et cetera* have been promulgated in the *Commonwealth of Australia Gazette*, No. 8, of February 1, 1923:

Australian Military Forces.

FIRST MILITARY DISTRICT.

Australian Army Medical Corps.

MAJOR J. S. SMYTH is transferred to the Reserve of Officers, 1st January, 1923.

SECOND MILITARY DISTRICT.

Australian Army Medical Corps.

To be Major—CAPTAIN W. R. C. BEESTON, 1st July, 1922.
MAJOR W. K. INGLIS and CAPTAIN T. W. VAN EPN are transferred to the Reserve of Officers, 15th January, 1923.

THIRD MILITARY DISTRICT.

Australian Army Medical Corps.

MAJOR J. K. RICHARDS is transferred to the Reserve of Officers, 1st January, 1923.
LIEUTENANT (provisionally) G. J. KENNEDY is transferred to the Australian Army Medical Corps Reserve and to be Honorary Lieutenant, 1st January, 1923.

FOURTH MILITARY DISTRICT.

Australian Army Medical Corps.

LIEUTENANT (provisionally) I. V. YOFFA is transferred to the Australian Army Medical Corps Reserve, Third Military District, and to be Honorary Lieutenant, 1st October, 1922.

FIFTH MILITARY DISTRICT.

Australian Army Medical Corps.

LIEUTENANT-COLONEL A. H. GIBSON is appointed from the Reserve of Officers and to be supernumerary to the establishment of Lieutenant-Colonels, with pay and allowances of Captain, 1st July, 1922.

Books Received.

ELEMENTS OF PHARMACY, MATERIA MEDICA AND THERAPEUTICS, by Sir William Whitla, M.P., M.D., D.Sc., LL.D.; Eleventh Edition; 1923. London: Baillière, Tindall & Cox; Crown 8vo., pp. x + 678, with twenty-two figures in the text. Price: 10s. 6d. net.
PRACTICAL ANÆSTHETICS FOR THE STUDENT AND GENERAL PRACTITIONER, by Charles F. Hadfield, M.B.E., M.A., M.D. (Camb.); 1923. London: Baillière, Tindall & Cox; Demy 8vo., pp. x + 244, with 32 figures in the text. Price: 7s. 6d. net.
THE ESSENTIALS OF CHEMICAL PHYSIOLOGY FOR THE USE OF STUDENTS, by W. D. Halliburton, M.D., LL.D., F.R.S.; Eleventh Edition; 1922. London: Longmans, Green & Company; Demy 8vo., pp. xi + 343, with 70 illustrations and one coloured plate. Price: 8s. 6d. net.

Medical Appointments.

THE appointment has been confirmed of Dr. C. H. J. RAMSBOTTOM as Resident Medical Officer, Bedford Park Sanatorium, South Australia.

Medical Appointments Vacant, etc.

FOR announcements of medical appointments vacant, assistants, *locum tenentes* sought, etc., see "Advertiser," page xviii.

ALFRED HOSPITAL, MELBOURNE: Vacancies on the Honorary Medical Staff.

THE HOOKWORM CAMPAIGN: Medical Officer in Charge of Field Unit.

Medical Appointments: Important Notice.

MEDICAL practitioners are requested not to apply for any appointment referred to in the following table, without having first communicated with the Honorary Secretary of the Branch named in the first column, or with the Medical Secretary of the British Medical Association, 429, Strand, London, W.C..

BRANCH.	APPOINTMENTS.
NEW SOUTH WALES: Honorary Secretary, 30 - 34, Elizabeth Street, Sydney	Australian Natives' Association Ashfield and District Friendly Societies' Dispensary Balmalm United Friendly Societies' Dispensary Friendly Society Lodges at Casino Leichhardt and Petersham Dispensary Manchester Unity Oddfellows' Medical Institute, Elizabeth Street, Sydney Marrickville United Friendly Societies' Dispensary North Sydney United Friendly Societies People's Prudential Benefit Society Phoenix Mutual Provident Society
VICTORIA: Honorary Secretary, Medical Society Hall, East Melbourne	All Institutes or Medical Dispensaries Australian Prudential Association Proprietary, Limited Manchester Unity Independent Order of Oddfellows Mutual National Provident Club National Provident Association
QUEENSLAND: Honorary Secretary, B. M. A. Building, Adelaide Street, Brisbane	Brisbane United Friendly Society Institute Stannary Hills Hospital
SOUTH AUSTRALIA: Honorary Secretary, 12, North Terrace, Adelaide	Contract Practice Appointments at Renmark Contract Practice Appointments in South Australia
WESTERN AUSTRALIA: Honorary Secretary, 8 Saint George's Terrace, Perth	All Contract Practice Appointments in Western Australia
NEW ZEALAND (WELLINGTON DIVISION): Honorary Secretary, Wellington	Friendly Society Lodges, Wellington, New Zealand

Diary for the Month.

FEB. 13.—New South Wales Branch, B.M.A.: Ethics Committee.
FEB. 14.—Victorian Branch, B.M.A.: Branch.
FEB. 14.—Western Australian Branch, B.M.A.: Council.
FEB. 20.—New South Wales Branch, B.M.A.: Executive and Finance Committee.
FEB. 22.—South Australian Branch, B.M.A.: Branch.
FEB. 22.—Brisbane Hospital for Sick Children: Clinical Meeting.
FEB. 23.—Queensland Branch, B.M.A.: Council.
FEB. 23.—Central Southern Medical Association, New South Wales: Goulburn (Annual).
FEB. 27.—New South Wales Branch, B.M.A.: Medical Politics Committee; Organization and Science Committee.
FEB. 28.—Victorian Branch, B.M.A.: Council.
MAR. 2.—Queensland Branch, B.M.A.: Branch.
MAR. 7.—Victorian Branch, B.M.A.: Branch.
MAR. 9.—Queensland Branch, B.M.A.: Council.
MAR. 9.—South Australian Branch, B.M.A.: Council.
MAR. 14.—Western Australian Branch, B.M.A.: Council.
MAR. 15.—Victorian Branch, B.M.A.: Council.
MAR. 21.—Western Australian Branch, B.M.A.: Branch.

Editorial Notices.

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